

**THE DEVELOPMENT AND TESTING OF A
NONCONSEQUENTIALIST DECISION-MAKING MODEL**

A Dissertation

by

RAED SABER ELAYDI

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2004

Major Subject: Management

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ABSTRACT

The Development and Testing of a Nonconsequentialist Decision-Making Model

(May 2004)

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New conceptual work in the judgment and decision-making research arena has suggested a nonconsequentialist perspective to decision-making. From this perspective, an emphasis is placed on emotions during the decision-making process, specifically positing that concurrent emotions may lead to decisions that are nonconsequentialist in nature. In the current study I develop the Nonconsequentialist Decision-Making Model (NDMM) and include indecisiveness as a vital construct in the model. In tune with much new research on emotions during the decision-making process, I examine how being indecisive is a product of negative concurrent emotions, and how indecisiveness affects the decision-making process. Using a natural decision-making setting, the current study had participants discuss the “biggest” decision they are currently facing in their lives. Data was collected regarding indecisiveness, nonconsequentialist dysfunctional decisional coping behavior, and decision difficulty. The findings show strong support for the NDMM and the nonconsequentialist perspective. Furthermore,

the indecisiveness construct was measured successfully and showed to be a critical part of the decision-making process when dealing with difficult decisions.

DEDICATION

This dissertation is dedicated to my parents, Salwa Arnous and Saber Elaydi, who believed in me and made me believe in myself, to my brother, Tarek Elaydi, who has guided and taught me throughout life, and my fiancée, Angela, for her love, humor, and friendship.

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CHAPTER I

INTRODUCTION

The current study successfully tested and found support for a decision-making model which serves an alternative to expected utility theory. I argue that negative emotions created by difficult choices lead individuals to make decisions that are *not* based on explicit logic or rational factors. Current literature in judgment and decision-making argues a *consequentialist* perspective, stating that individuals use cognitive evaluations of expected outcomes to make a decision. Consequentialist theories state that individuals are not affected by emotions during the decision-making process. However, a new stream of research has suggested a *nonconsequentialist* perspective. The nonconsequentialist perspective suggests that decision makers are affected by emotions during the decision-making process. Therefore, the central difference between the consequentialist and nonconsequentialist perspectives is whether concurrent emotions (i.e., emotions during the decision-making process) affect choice. These emotions during the decision-making process are called concurrent emotions and are argued to affect one's choice selection (Loewenstein, Weber, Hsee, & Welch, 2001).

The term "concurrent emotion" is synonymous with anticipatory emotions. Loewenstein and colleagues (2001) use the terms anticipatory emotions and anticipated emotions to define emotions that occur during the decision-making process and emotions that occur after the decision has been made. The current study will employ the term concurrent emotion to describe emotions that are experienced during the decision-

making process.

Making a difficult decision can define an individual's identity and what a person stands for, which can be an emotional process that causes an individual stress, anxiety, and fear. If we consider the process of difficult decision-making as an emotional process, negative concurrent emotions may reach an unmanageable level, and the decision maker may begin to focus attention on coping with the emotions rather than the difficult decision that initially led to the emotions.

The current literature in decision-making argues that *difficult decisions* can lead to the activation of *dysfunctional decisional coping behavior* (Janis and Mann, 1977; Lazarus and Folkman, 1984). Dysfunctional decisional coping behavior is defined as a defective search and appraisal of the situation and choices due to stress (Janis and Mann, 1977 p82). However, empirical research has found equivocal results regarding the link between difficult decisions and dysfunctional decisional coping behaviors. I question that this link is as simple and direct as it is often portrayed. The central hypothesis of this study is that the relationship between difficult decisions and nonconsequentialist dysfunctional coping behavior is mediated by indecisiveness (see Figure 1).

Indecisiveness is defined as the state of being undecided-uncomfortable in the decision-making process. The two components that comprise the indecisiveness construct are (1) being stuck in the decision-making process, and (2) having negative concurrent emotions. I argue that including indecisiveness into the model can better clarify the link between difficult decisions and dysfunctional decisional coping behavior. Furthermore, this research will develop *nonconsequentialist* dysfunctional decisional coping behavior (NDDCB) and suggest that this is a unique dysfunctional decisional coping behavior.

The term nonconsequentialist with regard to decision-making refers to the important role emotions play in the decision-making process (Loewenstein et al., 2001). An individual is considered to be engaged in nonconsequentialist dysfunctional decisional coping behavior (NDDCB) when: (a) the decision maker is focusing on the emotions the decision has created and *not* on the choices and the consequences of those choices, and (b) the decision maker would rather make a detrimental decision than stay in the decision-making process.

A simple analogy to the central hypothesis is the idea that dysfunctional decisional coping behavior is an escape mechanism, and for one to escape one must first feel decisionally imprisoned. I define the decisional prison as *indecisiveness* and argue that indecisiveness mediates the relationship between difficult decisions and nonconsequentialist dysfunctional decisional coping behavior. Therefore, individuals who display nonconsequentialist dysfunctional decisional coping behavior do so because they are in a state of indecisiveness and *not* because of the difficulty of the decision. Recent work (Loewenstein et al., 2001) suggests that negative concurrent emotions (i.e., fear, anxiety, and dread) occur during the decision-making process itself. A difficult decision may invoke negative concurrent emotions, and this emotional state has an effect on the focus and priorities of the decision maker- perhaps leading to a nonconsequentialist decision. A nonconsequentialist decision is a decision committed to by the decision maker that under expected utility theory would be considered detrimental to the decision maker, and the consequences to this committed choice are more detrimental to the decision maker than avoiding the decision or choosing another option. It is argued here that individuals make nonconsequentialist decisions due to negative

concurrent emotions.

A decision maker has three possible choices when making a difficult decision: the individual can (a) tolerate and manage the high level of anxiety, fear, and dread effectively and make the decision cognitively based on a consequentialist calculus (b) become crippled mentally and emotionally by the inability to decide (i.e., maintain a state of indecisiveness), or (c) escape from the decision-making process altogether (make a decision that is nonconsequentialist but removes the individual from the decision-making process). The last option is escape, which is an attempt to reduce a heightened negative emotional state by making a decision based largely on the need to reduce negative concurrent emotions and not the original problem per se. *This means that the actual act of making a decision functions as a coping behavior in and of itself.* The traditional assumption that difficult decisions cause dysfunctional decisional coping behavior will be expanded to suggest that difficult decisions lead to a state of indecisiveness, which then leads to nonconsequentialist dysfunctional decisional coping behavior.

Negative concurrent emotions in the decision-making process are best described as dread, fear, and anxiety about a choice. When a decision maker needs to make a decision and experiences negative concurrent emotions about a choice, the nonconsequentialist perspective would argue that, even if the probability of negative consequences is low, the decision maker might make a decision based on emotions and not the expected utility. A simple example of such a scenario is a person who needs to go from Los Angeles to New York immediately, but is afraid of flying. The person has a choice between taking a train or a bus, driving a car, flying, or canceling the trip. The

individual develops negative concurrent emotions (e.g., fear and anxiety) when considering flying. Expected utility theory would predict that the individual would choose to fly because flying is statistically safer, faster, and in many cases cheaper than the other options. However, an individual may ultimately choose to drive or not go at all due to the negative concurrent emotions felt during the decision-making process.

I would also note here that Loewenstein et al. (2001) suggests that anticipatory emotions are the result of strong anticipated emotions. The consequentialist perspectives supports the notion of anticipated emotions and states that individuals do not want to feel emotions such as regret after they make a decision, and therefore, when making a decision attempt to minimize anticipated emotions. However, as stated earlier anticipatory emotions are argued to occur due to anticipated emotions, hence, in every nonconsequentialist example of decision-making there will be a consequentialist aspect to it. There will be no nonconsequentialist decision made that is not affected by consequentialist thinking. Although this is a trite example, it speaks to the nonconsequentialist perspective and how concurrent emotions may lead to a decision not based on consequences, but on deep-seated anxiety, fear and dread.

Despite there having been much literature written about decision-making, only a small subset of it discusses the difficulty individuals have making important decisions, and of this research, only a very small number of studies look at indecision. Further, the judgment and decision-making literature has yet to examine the role of indecisiveness in the decision-making process. Therefore, there is a need for construct development and model building with the construct of indecisiveness. The purpose of the current study is to add to our understanding of indecisiveness as an important aspect of the decision-

making process.

How might emotions during the decision-making process (i.e., concurrent emotions) play a role when an individual faces a particularly difficult decision? When facing a difficult decision, concurrent emotions may be so overwhelming that the individual becomes emotionally paralyzed during the decision-making process. For example, if the decision maker in the previous example knows that flying is safer, faster, and cheaper, the decision maker may feel torn between her logic and empirical knowledge and her emotions and “gut” feeling not to fly. Such dissonance may lead to the decision maker feeling stuck in the decision-making process, with high levels of negative concurrent emotions. This emotional state would be exceedingly difficult to tolerate, and may lead to a dysfunctional outcome. To study this state seems very important when attempting to understand the nonconsequentialist decision-making perspective. Therefore, one must develop a construct that best describes the state where the decision maker feels *stuck* in the decision-making process and has high levels of negative concurrent emotions.

Work by Jones (1989) suggests that one can categorize a person’s decisional situation into four subtypes: decided-comfortable, decided-uncomfortable, undecided-comfortable, and undecided-uncomfortable. It seems that the last category undecided-*uncomfortable* most resembles the negative concurrent emotions state noted above. The undecided-uncomfortable subtype is a vital piece to our understanding of the nonconsequentialist perspective. Jones’ (1989) categorization was developed to better define an indecisive student within the vocational psychology field. Much work within the vocational psychology literature attempts to understand the indecisive “trait” which

prevents students from making a career or college choice. However, the current study will look at indecisiveness as a state and argue that it is an important variable in understanding the nonconsequentialist perspective in decision-making.

The undecided-uncomfortable subtype is the basic definition of indecisiveness. If one defines indecisiveness as undecided-uncomfortable, then being stuck in the decision-making process is the undecided, and the negative concurrent emotions are the uncomfortable. Deciding not to make a decision (e.g., deciding not to decide or avoidance) is different from indecisiveness in that, the decision maker is *comfortable* not making a decision; while, indecisiveness is best described as the decision maker being *uncomfortable*, and wanting to make a decision.

Lastly, the link between difficult decisions and indecisiveness may be influenced by decisional self-efficacy (see Figure 2). In general self-efficacy can be defined as an individual's estimation of his/her capacity to orchestrate performance on a specific task (Gist & Mitchell, 1992). Issues of self-efficacy are important in making decisions. For example, Blais's (2001) study suggests that self-efficacy had a mediating role to influence certain dysfunctional decisional coping behaviors. Decisional self-efficacy is decision specific, and focuses on one's perception of his or her ability to make a decision that is beneficial and meets certain objectives and goals. If an individual does not believe he or she is capable of making a decision, the individual has a low level of decisional self-efficacy. Low levels of self-efficacy should magnify the link between a difficult decision and indecisiveness. If one has low decisional self-efficacy, she is more likely to be stuck in the decision-making process, allowing for heightened levels of negative concurrent emotions (i.e., indecisiveness). Therefore, I hypothesize that

decisional self-efficacy moderates the relationship between difficult decisions and indecisiveness. In sum, difficult decisions (characterized by selection difficulty, anticipated regret, and preference instability) lead to indecisiveness, (which is moderated by decisional self-efficacy) which then leads to nonconsequentialist dysfunctional decisional coping behaviors (see Figure 2).

Indecisiveness and Management

There is evidence to show that indecisiveness is growing in our society, and a recent report suggests that it is a component of the cultural revolution of our information age (Dentsu, 1999). Dentsu argues that individuals find it easier to live life by always maintaining a transient uncommitted condition and allowing themselves to reverse their decisions and courses of action. This report suggests that the institutionalized cultural wisdom of not committing to a decision fully will lead to a greater chance of survival in today's difficult times of uncertainty and change (Dentsu, 1999).

The ubiquitous occurrences of indecision in organizations are important. Indecision can give critical insight about CEO and boards of directors' decision-making processes and perceptions. For example, The CEO of CompUSA, James Halpin, stated that his organizational chart looks "very thin on top and very flat (decentralized)... and that people should make their own decisions, and if it's wrong, we'll go back and fix it; but we say, don't do an *indecision*. One of the things I tell the people in our company is, if you get fired, make sure its for something you did, not for something you didn't do...Make a decision and move on. If it's wrong, we'll go back and fix it later" (Puffer, 1999: pg 29).

In an organizational context, indecisiveness seems to have gripped some of America's top corporations. An ABI Inform search showed over 160 popular business press articles discussing indecision in organizations. For example, Charan (2001) suggests that many organizations cultivate a culture of indecision, in that members of an organization make decisions but do not commit to them, and such decisions tend to be reversed later. Further, when decisions are made, the people responsible for carrying out the decisions are not committed to the decisions they agreed on. Charan (2001) further argues that abdication is so rampant in some organizations the decision-making process becomes dysfunctional.

The following dissertation will be broken into six chapters. Chapter II will look at the consequentialist and nonconsequentialist perspectives in decision-making, with a specific interest in the nonconsequentialist perspective. Chapter III will look at each component of the Nonconsequentialist Decision-Making Model and theoretically argue the links suggested in the model. The Nonconsequentialist Decision-Making Model was tested using a unique methodology discussed in Chapter IV. In Chapter V I present the results and in Chapter VI I discuss those results and then make some closing comments regarding the Nonconsequentialist Decision-Making Model and this study's support of the model.

CHAPTER II

A REVIEW OF CONSEQUENTIALIST AND NONCONSEQUENTIALIST DECISION-MAKING PERSPECTIVES

In the following discussion, I will review the consequentialist and nonconsequentialist perspective on decision-making and the current state of research in these areas. Second, I will discuss how the nonconsequentialist perspective is centered on the concept of concurrent emotions, which is a fundamental component of indecisiveness.

The nonconsequentialist view suggests that individuals can be highly influenced by emotions they are experiencing during the decision-making process itself, and these emotions may influence decision-making. This is a unique and evolving perspective that lends support to my argument that individuals sometimes make decisions based on the unmanageable emotions the decision has created and not the decision itself. However, this new perspective is in contrast to the consequentialist model, which states that decisions are based on a decisional calculus. Therefore, the following discussion on the consequentialist perspective will review the theory and highlight limitations of the model.

Consequentialist Perspective on Decision-Making

Loewenstein et al. (2001) notes that: “Virtually all current theories in decision-making under risk or uncertainty are cognitive and consequentialist.” They use the word consequentialist in its general sense to describe how individuals make decisions

based on the probability of the consequences of each choice. The consequentialist perspective is represented by expected utility theory (i.e., a prescriptive theory where utility = value, and individuals act rationally).

Expected utility theory sees decision-making as a computational process based on (a) expected outcomes and (b) subjective probabilities of choice (see Figure 3).

Before making a decision, the individual considers the severity and likelihood of expected outcomes, and through a subjective (i.e., with error and bias) mental mathematical formula attempts to predict the probabilities of all the alternatives.

Expected utility theory argues that individuals have a strong internal coherence and a logical consistency within a map of beliefs and preferences, which allows for a single and correct response. Further, emotions that occur during the decision-making process are seen as nonessential. This perspective suggests that *cognitive* evaluations of information form the totality of how a decision maker processes a risky choice. This perspective does not suggest that emotions do not exist, but rather suggests that they occur after the decision has been made, not during the decision-making process itself. Janis and Mann (1977) suggest that individuals attempt to minimize post decisional emotions during the decision-making process.

Anticipated Regret

The consequentialist perspective's discussion of emotions is limited to anticipated regret, which is defined as the decision maker's desire to minimize *future* anticipated emotions (see Figure 4). Anticipated regret assumes that during the decision-making process, individuals imagine and attempt to predict the feelings they will experience once the outcome of their decision is known. Regret is a common anticipated

emotion that is cognitively based, negative in nature, and experienced when one imagines or realizes that their situation could have been better if they had chosen a different course of action (Zeelenberg, 1999). Anticipated regret does *not* represent emotions experienced during the decision-making process.

Implicitly, anticipated regret is very much part of the cognitive, consequentialist perspective because it attempts to predict the probabilities of future emotions of regret and their severity, and then attempts to hedge those unwanted feelings (Loewenstein et al., 2001). This argument was supported by Isen and Geva (1987) who showed how individuals in a good mood tend to not gamble so they may maintain their good mood- a consequentialist perspective.

Nonconsequentialist Perspective on Decision-Making

Recently, theorists have begun to ask the question, how do emotions such as fear, stress, and anger influence decisions? How should such feelings be incorporated in the decision-making process (Blais, 2001; Loewenstein et al., 2001)? Nonconsequentialist theories support the notion that emotions do influence choice and decision-making, and research on this topic has grown rapidly in recent years.

Early Work

The symptoms of stress that are often observed at the time of making a difficult decision include feelings of apprehensiveness, a desire to escape from the distressing choice dilemma, and self blame for having allowed oneself to get into the predicament. In a study by Epstein and Fenz (1965), parachutists were asked to rate their subjective feelings of stress and anxiety. They found that the parachutists experienced maximal stress while on the ground, the time of the initial decision to participate in the airplane

jump. Feelings of avoidance decreased while in the plane, even though objectively the parachutists are closer to the dangerous situation. Avoidance feelings continued to decline when the objective danger was the greatest- during the free fall. This work began the focus on negative concurrent emotions during the decision-making process.

Starting with the pioneering experiments by Gerard (1967) and Janis and Mann (1977), psycho-physiological reactions support the notion that decisional conflicts promote marked increases in stress. An experiment by Mann, Janice and Chaplan (1969) examined college students who were confronted with a choice between two unpleasant forms of stimulation, either of which would enable them to fulfill their contract with the experiment. In order to assess emotional tension during the decision sequence, each subject's heart rate was monitored before, during, and after the decision-making process was complete. Heart rate increased sharply and was at its highest level during announcement or commitment to the choice, and then dropped off rapidly during the briefing session. These records of physiological arousal suggested that the demand to commit to a choice acted as a stressor.

Continuum of Decision-Making Factors

One way to conceptualize the relationship between framing emotions and decision-making is by considering the ideas of Etzioni (1992), who proposed a continuum of decision-making factors from normative/affective (N/A) to logical/empirical (L/E). Etzioni (1992) argues that most decisions are made using N/A factors, which include L/E skills. L/E skills are defined as making decisions based on objective methods such as scientific method, deduction, or induction. L/E skills may be the normative ideal, but he argues that those factors may not have any greater effect than

the N/A factors. This is because rarely are we in a situation when information and options are objective, complete, and accurate. Moreover, the model he proposes applies to situations in which both the options for changing and not changing a course of action carry serious economic, emotional, physical, and psychological risks to the individual.

The continuum is set so that *infusion*, which is the concept that a combination of the two factors influences the decision, is in the middle of the continuum of N/A and L/E. This can occur when N/A affects how one can make a very poor option seem viable, conceivably due to an emotional attachment that brings about an irrational fear. It may also occur when N/A factors intrude with the completion of an L/E process (Etzioni, 1992).

Etzioni (1992) suggests that most decisions are decided by or strongly influenced by values and emotions, and that people make judgments and decisions within a social context that is subjective and normative/affective in nature. Etzioni notes that logical/empirical steps in decision-making are infrequent because most critical and important decisions are subjective. This is an important statement because most critical decisions have a certain level of emotions. It is difficult to imagine a person asking, “Should I leave my corporate job and start my own company?” would be void of emotions about their current job, and their imagined future self-employment. These emotions may be the critical factors that drive the decision-making process.

Risk as Emotions

Recently researchers have looked at the impact of emotions during the choice process (Loewenstein et al., 2001). Loewenstein et al.’s work examined how individuals made decisions at a “gut level” and viewed risk as a feeling that overwhelmed them, as

opposed to a subjective probability of an expected utility. The authors suggest that this gut level reaction is influenced by both anticipated and *experienced emotions*. There are three distinctive arguments to the nonconsequentialist model (see Figure 5). First, the model suggests that the intensity and vividness of the potential consequences due to personal or vicarious exposure, have a strong impact on how emotions are experienced during the decision-making process. Second, cognitive evaluations lead to affective responses, but more importantly, the reverse can affect judgment and choice preference. Lastly, the model strongly suggests that feelings may arise *without* cognitive mediation, and that affective responses can mediate cognitive evaluations and behavior (see Loewenstein et al., 2001). Much of the work developed to support the model was done in neuroscience, looking at judgment and decision-making from a neurophysiological perspective (see Bechara, Damasio, Tranel, & Damasio, 1997; Damasio, 1994; LeDoux, 1996).

In sum, an individual's emotions can take over before any cognitive processes. The individual can react to these emotions without cognition (e.g., jump out of the way of a car), or if the immediacy is not needed, he can cognitively process the situation. However, in the latter case, these emotions have already flooded one's consciousness thus affecting judgment, perceptions of risk, vividness of consequences, and perceptions of probabilities¹. Loewenstein et al. (2001) argues that this perspective (i.e., risk as emotions) should have large implications for research on risk and decision-making and our understanding of theories such as prospect theory and escalation of commitment.

¹ LeDoux (1996) states "emotions can flood consciousness...because the wiring of the brain at this point in our evolutionary history is such that connections from the emotional systems to the cognitive systems are stronger than connections from the cognitive systems to the emotional systems."

Rational-Emotional Model

Anderson's (2003) Rational-Emotional Model (see Figure 6) suggests that selection difficulty, anticipated regret, and preference stability directly affect dysfunctional decisional coping behaviors, such as status quo bias (i.e., humans generally prefer no change), omission (no action bias, inaction inertia), and choice deferral (delay). Anderson (2003) describes decision avoidance as "a tendency to avoid making a choice by postponing it or by seeking an easy way out." Decision avoidance is described as a multiple causation system that includes the antecedents to a difficult decision (e.g., selection difficulty), which I elaborate on in this paper. While decision avoidance specifically attempts to differentiate itself from defensive avoidance, the Rational-Emotional Model still appears similar to Janis and Mann's (1977) work, given their similar taxonomy. Anderson's (2003) Rational-Emotional model was developed independently of Etzioni's model and the two models are different in one important instance. The Rational-Emotional Model incorporates concurrent emotions as a key influence in the decision-making process.

The Rational-Emotional Model (Anderson, 2003) is based on Loewenstein and colleagues' nonconsequentialist perspective, which posits that emotions affect the decision-making process and that the individual will either (a) make a choice in an attempt to reduce future, anticipated negative emotions, or (b) make a choice based on current experienced negative concurrent emotions (e.g., fear, anxiety). Anderson (2003) acknowledges that the decision-making process can be influenced by a combination of both anticipated and experienced emotions. Further, concurrent emotions are partially due to task context and person factors. These include, but are not limited to, decision

strategy, attractiveness of option set, cultural values, effort-accuracy trade-off, time limitations, attentional focus, and conflict type.

Summary

In this section, I have reviewed the consequentialist and nonconsequentialist models of decision-making. Much of the judgment and decision-making literature states that emotions do not play an important role in the decision-making process. However, recent work supports the notion that emotions created by the decision can affect the decision itself. From the nonconsequentialist perspective, both *anticipated* and *concurrent emotions* drive the decision-making process. In particular, anticipated regret, concurrent emotions, and the role of risk seem to play important roles in the decision-making process. Lastly, I discussed how feelings influence assessment and elimination of choices during decision-making. These constructs are integral to further our understanding of judgment and decision-making. From this perspective, we can attempt to develop a new Nonconsequentialist Model of Decision-Making, and find the role indecisiveness plays within this model.

CHAPTER III

THEORY DEVELOPMENT

Emotions Affecting Choice

Introduction

The following chapter will introduce and explain the Nonconsequentialist Decision-Making Model (NDMM; see Figure 2) and present corresponding hypotheses. I will first review work on concurrent emotions to establish a foundation for the hypotheses developed using the NDMM. Lastly, I will describe each component of the NDMM, starting from difficult decisions and ending with dysfunctional decisional coping behavior.

Concurrent Emotions

Literature in clinical psychology suggests that emotions commonly are in conflict with cognitive evaluations, and may be the root of certain pathologies of decision-making and behavior (Loewenstein et al., 2001). Ness (1994) demonstrated that emotional reactions to risky situations often are not in line with the decision maker's cognitive assessment of risk severity. When such a gap exists between emotional reaction and cognitive risk, assessment of the emotional reactions tends to steer and dictate behavior. However, this tendency may be a poor adaptation. "Fear may lead us to slam on the brakes instead of steering into the skid, immobilizes us when we have the greatest need for strength, causes sexual dysfunction, insomnia, ulcers, and gives us dry mouth and jitters at the very moment when there is the greatest premium on clarity and

eloquence” (Loewenstein et al., 2001). Loewenstein et al. (2001) quotes Barlow (p18), an expert in anxiety, as stating that individuals “are well aware that there is little or nothing to fear in situations they find so difficult.” It seems maladaptive that one’s emotions can become cruelly intense, at the same time one’s reasoning and rational capabilities are fully functional and aware, all the while leaving the individual unable to abate or overcome any of the emotions.

The consequentialist model assumes that these emotional states are evident in all contexts of risk, but not a factor in decision-making. I argue that this is flawed logic; one’s emotions *do* interrupt decisional cognitive processes. Proposing marriage, going to a medical doctor about a lump, terminating an employee, or buying a new home all involve a strong emotional element. In some cases, individuals feel cognitively they have made a decision, but soon realize that emotionally that are still in status quo and resistant to the decision. The decision maker feels he or she must conquer their “fear” first before acting on their decision. The need to conquer a fear before making a decision explicitly suggests that emotions are a large part of the decision-making process.

Loewenstein et al. (2001) suggests that we look at emotions as advantageous in the decision-making process, as opposed to a passion that may lead the decision maker to a poor choice. However, I will later discuss that at times emotions may lead to indecisiveness when the decision maker feels “stuck” in the decision-making process. The perspective that emotions can be advantageous is based in large part on work done in the fields of neuroscience and social psychology. This somatic reaction (i.e., visceral noncognitive reactions) occurs when affective reactions are quicker and simpler than

cognitive reactions. Such somatic reactions are a crude but effective first assessment of threats and options, without the need to ignore one's environment momentarily and think (Damasio, 1994). This is done when "the direct pathway is not subject to this type of filtering (cognitive processing of relevant and irrelevant information), and therefore will transmit the information about the threatening stimulus to the amygdala², regardless of whether or not the stimulus occurs in the focus of attention (Armony, Servan-Schieber, Cohen, & LeDoux, 1997 quoted in Loewenstein et al., 2001, pg. 268)." LeDoux (1996) states that the amygdala triggers the release of adrenaline and other hormones into the blood stream, which elevates an avoidance response and more importantly disrupts the control of rational thought. Further, this view argues that somatic reactions to threatening stimulus (such as risk) may not be seen or brought to one's focus by the cortical systems, perhaps due to subtle environmental cues, but are still experienced viscerally (see Loewenstein et al., 2001 for a full review). Recall, the feelings experienced during the decision-making process are called concurrent emotions. Therefore, evidence supports the notion that, risk can be assessed by non-cognitive, somatic processes that, for our purposes, will be defined as emotions of risk. Hence, some individuals assess choices and make decisions based on somatic feelings (Loewenstein et al., 2001).

² Amygdala is a primeval arousal center, in the human neuro structure, which is central to the expression of negative emotions, and is central to producing and responding to nonverbal signs of anger, avoidance, defensiveness, and fear. Behavioral examples that the amygdala produces are the freeze reaction, sweaty palms, and the tense-mouth. Givens (2001) notes that "working through the hypothalamus, the amygdala releases excitatory hormones into circulating blood... After surgical removal of the amygdala, growls, screams, angry voices, and other negative signs may lose their meaning and become incomprehensible as afferent cues."

Summary

The seminal piece of work by Janis and Mann (1977) suggests that difficult decisions lead to coping behavior. Lazarus and Folkman's (1984) work tested by Blais (2001) further supports the notion that difficult decisions directly affect dysfunctional decisional coping behavior, but in certain contexts this is moderated by decisional self-efficacy. Blais (2001) sees stress as the focal antecedent linking difficult decisions with coping behavior. Further, there has been much work done recently on coping behavior, and the assumption that difficult decisions lead to coping behavior has been consistently supported by the literature. From the Janis and Mann (1977) and Anderson (2003) view, if the individual identifies no possible realistic alternatives, he/she engages in defensive avoidance/decision avoidance (both coping behaviors), suggesting a direct link between the difficult decision and coping behavior.

Indecisiveness

Making a decision with serious ramifications to the decision maker³ coalesces and gives real form to various aspects of one's life and identity. Individuals who fall into the indecisiveness state are weakening their understanding of themselves, their preferences, efficacy, and direction. These individuals may use nonconsequentialist dysfunctional decisional coping behavior to shun ownership of their lives, and become less involved in the direction, input, and development of their decisions and actions.

³ Janis and Mann (1977) define a decision with outcomes that have serious ramifications for the decision maker as to include those decisions "that evoke some degree of concern or anxiety in the decision maker about the possibility that he may not gain the objectives he is seeking or that he may become saddled with the costs that are higher than he can afford, either for himself personally or for a group or organization with which he is affiliated" (p. 69).

Much literature in the vocational and counseling psychology field maintains this line of thought.

Further, indecisiveness is debilitating. Obsessional indecision (Dunne & Llamas, 1998) is argued to be a “pure” obsessional disorder. Obsessional indecision occurs due to one’s inability to overcome overvalued ideas, move past worry time, and solve problems within a sufficient time frame (Dunne & Llamas, 1998). Lamprell’s study of the paralysis of indecision in his clients suggests that indecisiveness is a “resistance to change...being apparently incapable of enthusiasm, commitment or excitement (Lamprell, 1989).” This state leads individuals to perpetually weigh pros and cons with the perception that movement in any direction is impossible (Lamprell, 1989).

Indecisiveness, which inflicts societies, organizations, and individuals, is a phenomenon that needs to be better understood. However, according to *Psychinfo* and *ABIinform* (both electronic databases of journals, dissertations and books), there are only a few empirical or theoretical publications on indecision or indecisiveness⁴, with a majority of these coming from counseling psychology. Therefore, I will further define indecisiveness in terms of what indecisiveness is, what it is not, and how the construct has been confounded with other constructs in the decision-making literature.

Defining Indecisiveness

Indecisiveness occurs when an individual is in the process of making a decision and is unable to decide. The decision maker becomes stuck in the process, triggering high levels of psychological discomfort that transcends the need to make a functional

⁴ I noted earlier that an ABI Inform search resulted in over 160 popular business press articles (e.g., Forbes, Business Week, and Wall Street Journal to name a few). However, when the search was limited to peer reviewed journals only a few articles directly or indirectly discussed indecision.

decision. Simply, indecisiveness is a decisional prison where one is caught in a decision-making process that creates high levels of emotional discomfort. The overwhelming emotional paralysis and discomfort of not being able to decide leads individuals to use dysfunctional decisional coping behaviors to escape. From this discussion, the relationship between indecisiveness and nonconsequentialist dysfunctional decisional coping behavior seems to be important for our understanding of the decision-making process.

Hypothesis 1: Indecisiveness is positively related to dysfunctional decisional coping behaviors.

Confounding Indecisiveness

Janis and Mann's (1977) conflict theory model of decision-making has been one of the most influential models in decision-making research. Although the authors highlight much of the essence of indecisiveness, they neglect to mention indecisiveness as a topic itself. Janis and Mann (1977) posit that difficult decisions are made when one gains information that is a threat to the individual's current state of mind, which may then result in feelings of apprehensiveness, leading to a desire to escape from making a distressing choice. They argue that the greater the losses anticipated, the greater the stress and the greater the commitment an individual has to the current course of action. Though not speaking specifically to indecisiveness, the emotional state they discuss is comparable to the construct of indecisiveness.

The major subjective characteristic of Janis and Mann's work on decisional conflict is labeled as an 'unpleasant feeling of distress.' They state that intense conflicts are likely to arise when a person has to make an important decision, such as whether to

get married, sign a business contract, or agree to political compromise. Such conflicts become heightened as a decision-maker becomes aware of the risks associated with suffering serious losses from whatever course of action he or she chooses. This contributes to the intensity of decisional conflict. Decisional conflict is described as simultaneously imposed tendencies within the individual to accept and reject the given course of action. In addition, there are difficulties in reversing long-term decisions such as those mentioned above. The most prominent symptoms of such conflicts are hesitation, feelings of uncertainty, and signs of acute emotional stress. Janis and Mann (1977) discussed indecisiveness without ever using the word, most likely because the construct was largely confounded with the concept of defensive avoidance.

The indecisiveness construct has not been developed in the judgment and decision-making literature, because as noted above it may be subsumed and imbricated with dysfunctional decisional coping behavior constructs. Therefore, issues of construct validity arise with regard to what dysfunctional decisional coping behaviors are, how they are different from indecisiveness, and why indecisiveness is confounded with dysfunctional decisional coping behavior in the decision-making process.

Existing indecisiveness scales appear to be measuring the same construct of dysfunctional decisional coping behavior. Many different fields have indirectly studied the construct of indecision. However, the construct has not been directly attended to in any literature except in the field of vocational and counseling psychology. Anderson (2003) suggests that decisional avoidance tended to be subsumed into other constructs in each given field. Indecisiveness, a similar construct, seems to have met a similar fate.

Mann, Burnett, Radford and Ford's (1997) development of a questionnaire (Melbourne Decision-making Questionnaire or MDMQ) based on Janis and Mann's (1977) work on critical decision-making is the current seminal work on operationalizing dysfunctional decisional coping behavior. The MDMQ is the culmination of twenty years of development and refinement (Mann, Beswick, Allouache, & Ivey, 1989; Mann et al., 1997; Motowidlo, Packard, & Manning, 1986), attempting to operationalize the original Janis and Mann model. However, it seems that the questions in the MDMQ look very similar to questions on indecisiveness (Brisbin, 1992; Brisbin & Savickas, 1994; Gati, Krausz, & Osipow, 1996; Haraburda, 1999; Lancaster, Rudolph, Perkins, & Patten, 1999; Leong & Chervinko, 1996).

Furthermore, the MDMQ (Mann et al., 1997) seems to load greater when the coping behaviors are grouped together (defined as non-vigilant) when running a confirmatory factor analysis, rather than when they are independent. Mann et al. (1997) tested a variant model of the MDMQ because of the high levels of loading between the different dysfunctional decisional coping behaviors. They found that vigilance is designated as a first-order factor and non-vigilance as a second-order factor with three constituents loading on the factors- buck-passing, procrastination, and hypervigilance. The study showed, using confirmatory factor analysis, that using the two-factor model (e.g., vigilant vs. non-vigilant) had an identical fit (goodness of fit = 0.92, adjusted GFI = 0.90, Root-Mean-Square Residual = 0.05, X^2/df 9.34) to the four-factor model (goodness of fit = 0.92, adjusted GFI = 0.90, Root-Mean-Square Residual = 0.05, X^2/df 9.01). The findings suggest two important points: (1) indecisiveness and dysfunctional decisional coping behavior items may be confounded and, therefore, the reason why we

cannot differentiate between the constructs is because indecisiveness is captured in all types of dysfunctional decisional coping behavior and, (2) indecisiveness scales and dysfunctional decisional coping behavior scales seem to be measuring the same construct.

Flinders 1982 Decision-Making Questionnaire, the questionnaire that preceded the MDMQ, also suggests that there are high intercorrelations between hypervigilance, defensive avoidance, and three defensive avoidance scales (Radford, 1982). Other empirical research such as Mann et al.'s (1989) work took this into account and did not break up non-vigilance. Mann et al. used a single non-vigilant construct by creating a 25-item scale labeled "maladaptive coping" which combined hyper-vigilance, defensive avoidance, procrastination, buck-passing, and rationalization. This gives further credence to the idea that different types of dysfunctional decisional coping behavior scales may perhaps be testing indecisiveness.

Further, Burnett, Mann, and Beswick (1989) used three DMQ scales (e.g., vigilance, hypervigilance, and defensive avoidance) to test competence of students' course planning and satisfaction. The study found a significant positive relationship between decision vigilance and course planning and satisfaction. Further, Fletcher and Wearing (1992) suggest that decision vigilance is associated with detailed planning, while hypervigilance and defensive avoidance are associated with superficial planning and post-decision regret. This makes sense for both studies and gives credence to the idea that non-vigilance (i.e., defensive avoidance) greatly taps into the indecisiveness construct. Therefore, teasing out dysfunctional decisional coping behavior and indecisiveness into separate constructs with a separate measurement instrument is a vital

first step in resolving this discrepancy in the literature. Furthermore, the basic premise of this study is to test the Nonconsequentialist Decision-Making Model. The model hypothesizes that indecisiveness mediates the relationship between difficult decisions and nonconsequentialist dysfunctional decisional coping behavior. It is vital to this study and the Nonconsequentialist Decision-Making Model to show that difficult decisions and indecisiveness are separate constructs, and more importantly that indecisiveness is separate from dysfunctional decisional coping behaviors.

All three of the above dysfunctional decisional coping behaviors (e.g., abdication/buck-passing, procrastination, and hypervigilance) appear to have similar items when compared to the indecisiveness scales. Thus including a valid measure of indecisiveness in a judgment and decision-making model would allow for greater explanatory power. The different dysfunctional decisional coping behaviors (e.g., abdication/buck-passing, procrastination, and hypervigilance) have not exhibited any discriminant validity when using confirmatory factor analysis, and this again may be due to each dysfunctional decisional coping behavior subsuming a certain level of indecisiveness within its construct.

I posit that non-vigilance questions used in the aforementioned research scales tap into a great deal of the decisional prison state of indecisiveness. I have attempted to build a model in which indecisiveness is separated from the dysfunctional decisional coping behavior, allowing higher levels of discriminant validity between different coping behaviors. This will allow for a more precise and complete understanding of the effects of difficult decisions, indecisiveness, and dysfunctional decisional coping behavior.

Nonconsequentialist Dysfunctional Decisional Coping Behavior

Introduction

Lazarus and Folkman (1984) suggest two coping behaviors (*not* in the context of decision-making) (1) regulation of emotions or distress (i.e., emotion-focused coping), and (2) management of the problem at the origin of the emotions/distress (i.e., problem-focused coping). Further, Janis and Mann (1977) suggest four dysfunctional decisional coping behaviors (1) shifting responsibility (i.e., abdication) (2) bolstering (i.e., in a biased manner the decision maker seeks reasons to support an inferior course of action), (3) hypervigilance (i.e., failing to recognize all the alternatives, not using remaining available time to evaluate alternatives, and frantically looking for a solution, going through a number of alternatives, and then making a hastily contrived solution that only seems to promise an immediate solution) and (4) vigilance (i.e., clarifying objectives, considering alternatives, evaluating consequences, and strategically thinking how to implement chosen options). Mann et al. (1997) suggests that Lazarus and Folkman's (1984) two coping behaviors (i.e., problem and emotion-focused) are comparable to Janis and Mann's (1977) four (i.e., shifting responsibility, bolstering, hypervigilance, vigilance). Mann and colleagues also note that problem-focused coping is similar to the vigilance construct, and that emotion-focused coping, such as denial and distancing to reduce the worry, are parallel to defensive avoidance (i.e., shifting responsibility, bolstering and hypervigilance).

Based on Janis and Mann (1977) and Lazarus and Folkman's (1984) definitions of vigilance and problem-focused coping, respectively, I define decisional coping behavior in its healthiest form as one's ability to use realistic and flexible thoughts and

acts to solve problems and make decisions (Lazarus & Folkman, 1984). However, in its dysfunctional form I use the more traditional definition of dysfunctional decisional coping behavior, which is best described as an escape mechanism.

The following section makes the distinction between *functional* coping (i.e., vigilant and problem-focused) and *dysfunctional* coping (i.e., emotion-focused coping) during the decision-making process. Dysfunctional coping is the basis for the development of the NDDCB construct, and will be discussed in the following paragraphs at length. On the other hand, functional coping is the ability to make decisions in a functional healthy way, and will not be essential to our understanding of the Nonconsequentialist Decision-Making Model. However, functional coping will be discussed as a dialectic to better understand dysfunctional decisional coping behavior.

The Nonconsequentialist Decision-Making Model suggests a new type of dysfunctional decisional coping behavior called nonconsequentialist dysfunctional decisional coping behavior (NDDCB). NDDCB is an escape mechanism that parallels emotion-focused coping. The distinction of the NDDCB is it specifically refers to coping in the context of the decision-making process. Three components define a nonconsequentialist dysfunctional decisional coping behavior. First, an individual must be attempting to make a decision. Second, the decision maker's focus is on coping with the emotions the decision itself has created, and not necessarily the decision and its consequences. Third, the decision maker commits to a decision to reduce or negate negative concurrent emotions, and tends to close his eyes to the consequences of the choice.

Functional Coping Behaviors

Janis and Mann (1977) suggest that individuals under manageable circumstances make vigilant decisions, whereas Lazarus and Folkman (1984) suggest under similar circumstances individuals make problem-focused decisions. Mann et al. (1997) suggest that there is great parallel between the concept of problem focused coping and Janis and Mann's (1977) notions of vigilance. Functional coping in decision-making occurs often, and is noted here to differ from the topic of this study, which is predicting nonconsequentialist dysfunctional decisional coping behavior.

Vigilance occurs when the decision maker makes clear the objectives to be accomplished, is able to survey a spectrum of choices, effectively explores relevant information, absorbs and comprehends the information with an unbiased view, and assesses the choices meticulously prior to making a decision. Vigilance is correlated with a medium psychological stress level. Janis and Mann's (1977) conflict model suggests that it is the single coping pattern that leads to "sound and rational decision making" (Mann et al., 1997).

Problem-focused coping strategies focus on objective and analytical processes or motivational or cognitive solutions. Objective and analytical processes can be defined as the attempt to generate good solutions and weigh alternatives to the problem. Examples of cognitive and motivational solutions can be defined as the ability to develop and learn new skills. As mentioned previously, functional decision-making occurs often, but it is the dysfunctional decisional coping behaviors and difficult decisions that are the focus of the research reported here.

Dysfunctional Coping Behaviors

According to Lazarus and Folkman (1984), the decision maker first appraises the situation before reverting to dysfunctional coping behavior. Appraisals are perhaps synonymous with “judgment” in the judgment and decision-making literature. Therefore, to understand the current literature on coping behavior we must look at appraisals.

Appraisals

In order to determine the degree of stress experienced in a situation Lazarus and Folkman’s (1984) work on stress and coping discuss a two-tier appraisal process. This and additional work done by Lazarus (1966) has been among the seminal pieces in psychology regarding stress. According to Lazarus and Folkman (1984), stress is defined as “a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being” (p.19). Further, Folkman (1984) distinguishes between appraisals and coping behavior by arguing that coping is defined as “constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of a person” (Lazarus & Folkman, 1984).

Appraisals occur at two levels, and each level can interact with the other to determine one’s objective level of stress. Appraisals assess a situation to determine the level of potential harm or threat. The appraisal is not a simple perception of the situational elements but a judgment or an inference that is affected by the appraiser’s knowledge and beliefs (Lazarus, 1966).

The primary appraisal level takes into account the stakes of the outcome (i.e., will something negative or positive happen to me) (Lazarus, 1991). If the situation is defined as stressful, it can be categorized as *harm/loss*—the individual has already been hurt or experienced a loss in some manner; *threat*—the individual is anticipating being hurt or losing something; and *challenge*—an individual anticipates a potential profit or improvement of one's situation. There is evidence that the primary appraisals of threat and challenge have direct effects on coping behaviors (Blais, 2001), and that appraisals of challenge are positively related to the use of problem-focused coping behaviors. Appraisals of threat are positively related to emotion-focused behaviors (Peacock, Wong, & Reker, 1992).

Secondary appraisals assess which coping options would optimize one's situation. Secondary appraisals focus on the evaluation process of resources and options that the highly stressed individual has to deal with. The most common secondary appraisal is decisional self-efficacy. Concerning this study, decisional self-efficacy is hypothesized to be a moderator between difficult decisions and indecisiveness (see Figure 2).

Coping is not an appraisal, but an effort to manage a stressful situation, with its key feature being that when a person is coping he is not solely interested in the outcome of the situation. Further, regardless of the expected loss/damage or gain/profit of the coping behavior, coping can include any thought or act that negates the stress of the situation. Accordingly, emotion-focused coping deals with the regulation of emotions, cognitive processes, and behavioral strategies. Cognitive processes are aimed at lessening emotional distress using behavioral strategies such as distancing oneself from

a situation, minimization, and avoidance of a situation.

Lazarus and Folkman's (1984) two-tier model of appraisals has been studied at length by clinical, personality, and social psychology researchers, however the literature has not been linked until recently to the decision-making processes. Blais' (2001) work (c.f., Lazarus and Folkman, 1984) suggests a direct link between difficult decisions and dysfunctional decisional coping behavior, and also notes that for certain decision types, decisional self-efficacy mediates difficult decisions and dysfunctional decisional coping behavior. Her work suggests that difficult decisions have a direct and *indirect* effect on coping behavior, due to a person's appraisal (operationalized by Blais as decisional self-efficacy). Though Lazarus and Folkman's (1984) perspective states that primary appraisals of threat and challenge are mediated by secondary appraisals, only self-efficacy had a partially mediating role in influencing coping in Blais's (2001) study. Terry (1991; 1994) supplements Blais's work by suggesting that decisional (i.e., situational) self-efficacy, accounted for most of the variance in cautiousness, escapism, and self-blame coping behaviors compared with primary appraisals of stressfulness.

Janis and Mann's (1977) model states that individuals that perceive to have no possible realistic alternatives engage in defensive avoidance (i.e., shifting responsibility, bolstering, hypervigilance), arguing a direct effect between the difficult decisions and coping behavior. Therefore, both Janis and Mann's (1977) and Lazarus and Folkman's (1984) models suggest that difficult decisions lead to dysfunctional decisional coping behaviors.

Further, Anderson (2003) suggests that the decision maker attempts to minimize these experienced concurrent emotions through some form of coping. Both anticipated

and concurrent emotions can influence choice in a fully computational, goal-based manner (see Figure 6). Further, Anderson allows for individuals to not choose any of the alternatives, which is a behavioral option that is used to reduce anticipatory emotion (e.g., Luce, 1998; Luce, Bettman, & Payne, 1997).

Difficult Decisions

There are no universally difficult decisions; difficult decisions are based on the decision maker's perception of the decision and their choices. There are many reasons why a person may perceive a decision as difficult. So, what makes a decision difficult? I propose that there are three factors that make up a difficult decision: anticipated regret, selection difficulty, and preference instability. These three factors are derived from conceptual work by Janis and Mann (1977) and Anderson (2003). The three factors trigger high levels of emotional conflict and it is this overwhelming emotional conflict that pushes the decision maker into the indecisiveness state, leading to the notion that indecisiveness mediates the relationship between difficult decisions and dysfunctional decisional coping behavior. I will now turn to discussing the three factors that comprise a difficult decision in more detail.

Three Factors of Difficult Decisions

Anticipated Regret

As previously discussed, during the decision-making process, individuals imagine and attempt to predict the feelings they will experience once the outcome of their decision is known. When individuals have choices, they do not want to feel regret after they make a decision. Thus, being aware of this potential regret, the decision maker attempts to make a choice that minimizes this regret. Anticipated regret is a

combination of an imagined lost opportunity and a negative consequence. Anticipated regret does *not* represent emotions during the decision-making process. However, many negative concurrent emotions such as dread, anxiety, and regret are derived from anticipated regret.

Loewenstein et al. (2001) suggests that it is not anticipated emotions alone, but also concurrent emotions that have an effect on risky choice. Loewenstein et al. and colleagues conclude from their work that concurrent emotions phenomenologically refer to potential future outcomes in the same manner as anticipated regret. However, in concurrent emotions, the emotional encounter occurs during the decision-making process, opposed to the mentally simulated future (Anderson, 2003).

During the decision-making process, concurrent emotions may detract the individual from making a good decision because he or she is coping with their emotions (Loewenstein et al., 2001). Negative concurrent emotions, such as fear, dread, and anxiety may overwhelm the decision maker and lead to an indecisiveness state (to be described in more detail later). This is not to be confused with anticipated regret, which occurs when individuals attempt to minimize their future regret in decision-making. The importance in making the distinction between *concurrent emotions* and *anticipated regret* is that indecisiveness refers to emotions that arise during the decision-making process and the inability to manage those emotions.

For example, an individual has to make a decision whether or not to buy a new home. Concurrent emotions occur during the decision-making process, and the individual feels emotionally overwhelmed and distraught about the decision to buy a new house. Is buying a new home the right decision? Is it too risky? How will he/she

feel after making the decision? If the individual is experiencing anticipated regret, he/she is also likely to be experiencing concurrent emotions (fear, anxiety, and apprehension).

Hypothesis 2: Anticipated regret is positively related to indecisiveness.

Preference Instability

Preference instability⁵ is a dynamic and understudied construct, which describes the extent to which one's preferences change during the decision-making process. If an individual changes their mind frequently about which choice they prefer, this contributes to the label of a difficult decision. This vacillation may trigger a heightened level of negative concurrent emotions. These heightened levels of negative concurrent emotions in conjunction with one's inability to decide (i.e., stuck in the decision-making process) may lead to a state of indecisiveness. In support of this, Callanan and Greenhaus (1990) demonstrated that indecision (defined differently than indecisiveness) occurs when an employee has difficulty selecting an appropriate goal.

Ambivalence, a similar construct to preference instability, is construed as a state of indecision that is categorized as approach-avoidance (e.g., a good job in a bad city). Webster defines ambivalence as “[un]certainty or fluctuation, especially when caused by inability to make a choice or by a simultaneous desire to say or do two opposite or conflicting things, simultaneous and contradictory attitudes or feelings (as attraction and repulsion) toward an object, person, or action...continual fluctuation (as between one

⁵ This differs from Anderson's (2003) concept of preference stability, where he posits that individuals tend to have very stable preferences, and choose the status quo or no change option when making a decision.

thing and its opposite), uncertainty as to which approach to follow.” Therefore, ambivalence can be considered a subset of a form of preference instability.

An example of preference instability can be seen in top academic and/or athletic high school prospects attempting to choose a university to attend. The student has received numerous scholarships to many schools across the country. The student may fall into a state of indecisiveness due to the constant preference change he/she goes through when visiting each school.

Hypothesis 3: Preference instability is positively related to indecisiveness.

Selection Difficulty

Selection difficulty is defined and comprised by three components (e.g., preference uncertainty, poor structure, and incomparable alternatives) that I will define in detail in the following paragraphs. Using concepts developed by Anderson (2003) I suggest that selection difficulty leads to indecisiveness when the decision maker (a) lacks a reason to choose one of the options, (b) has a certain and specific goal but is unsure of the best choice to attain that goal (i.e. preference uncertainty), and (c) the decision itself is ill defined and lacks structure. I will further elaborate on each of these three factors that lead to selection difficulty.

Preference Uncertainty. Preference uncertainty, similar to lack of reason, is centered on one’s ability to define oneself and one’s preferences. Having a clear goal but not knowing which choice will best reach that goal describes preference uncertainty. Anderson (2003) defines preference uncertainty as “a state of being unsure regarding which of two options meets ones’ goals or criteria for the best choice.” However, the

question remains as to whether it is the inability to select a strategy or the uncertainty expressed about a selected goal, which may lead to indecision in strategic decisions.

Being stuck in the decision-making process and feeling uncomfortable may arise due to situational factors that lead to mutually exclusive outcomes. Mutually exclusive outcomes may occur within an individual due to goal, cognitive or affective conflict. There are three subtypes of intrapersonal conflict particularly relevant to understanding indecision: approach-approach, avoidance-avoidance, and approach-avoidance conflict (Locke, Smith, Erez, Chah, & Schaffer, 1994). Approach-approach conflict occurs when there are two or more options that lead to possible positive outcomes (e.g. two good job offers). Approach-avoidance and avoidance-avoidance situations may lead individuals to not know what their preferences are (i.e., preference uncertainty). Avoidance-avoidance conflict occurs when two or more options have a negative outcome (e.g. take a decrease in pay or get laid-off). However, the complexities of most situations lead many individuals to have options that lead to both positive and negative emotions. In these circumstances, an approach-avoidance conflict arises and indecision is likely to occur. The approach-avoidance conflict occurs when each option has both a positive and negative aspect (e.g. taking a good job in a bad city).

Preference uncertainty is different from preference instability because the latter focuses on having goals and criteria and then changing them, while the former focuses on the options and whether those options will meet one's goals and criteria. Simply put, with preference uncertainty, the decision maker has goals she wants to achieve but is unsure how to differentiate whether choice A or choice B will meet the decision maker's goals. Hence, the focus is how to attain one's goals. In contrast, preference instability

focuses on differentiating one's goals and solidifying values on the goals to make the decision. Therefore, the decision maker is very aware of which choice will lead to the fulfillment of which goals. In the example of the high school student choosing a university, under preference uncertainty the student may not know which school will be best suited to attain her goal of getting into medical school. By contrast, with preference instability, the individual knows that attending university A will allow her to attain her goal of being a doctor and university B will train her in law, but she changes her mind daily on whether to become a doctor or a lawyer.

Hypothesis 4: Preference uncertainty is positively related to indecisiveness.

Poorly Structured Decision. Anderson (2003) notes that unstructured, ill-defined decisions lead to selection difficulty. He states:

This structure is usually revealed in the degree to which algorithmic methods can be applied to produce a solution. In a well-defined problem, the relevant variables are known, their values are retrievable, and the process of combining this information is mechanical and guaranteed to produce a solution of a determined nature. Many decisions lack these attributes and are, consequently, more difficult. This difficulty is produced by doubt about the relevance, accuracy, or use of information one has acquired that is assumed to be relevant to the decision (Anderson, 2003).

One situational factor that makes decisions difficult and may lead to indecisiveness is role ambiguity. Kahn, Wolfe, Quinn, Snoek and Rosenthal's (1964) study suggests that role ambiguity is a source of job-related distress. In a qualitative study (Bartunek, 1993), a new director in the initial weeks of her job was stricken by indecision. "Her uncertainty about what she was doing in her role...the academic

director had been hesitant to be very assertive. She said the principle told her ‘you’re so afraid of stepping on toes you haven’t done anything (Bartunek, 1993).’ Poor clarification of one’s functional role, expectations, and the manner in which to gather reliable information may make a decision difficult to the decision maker.

Hypothesis 5: Poorly structured decisions are positively related to indecisiveness.

Incomparable Alternatives. For an individual to make a decision he/she must first make a judgment about the quality of options, the context in which the decision is being made, and his/her preferences. Lacking a reason to choose an option occurs when an individual is unable, incapable, or has not spent enough time in the development of a judgment. Without a discernable judgment on the decision and its options, the decision maker has no justifiable reason to act. Schick (1997) states that *reason* is a cognitive evaluation of an option, its motivational orientation towards results, and the predicted results of that option (Anderson, 2003). Anderson speaks of this:

Most options suggests developing a reason to make a decision allows a person to formulate one’s belief and desire; could produce a variety of results and be interpreted in the framework of several cognitive schemata, and a reason for a decision is situated within a particular framework; an understanding of the relevance of the decision to other knowledge. Decisions in which there are few potential reasons for making a particular choice are likely to be more difficult. The context in which options are situated can add or remove context-dependent reasons for choice, making the decision easier or more difficult (Anderson, 2003).

Making a decision clarifies one’s particular desires and beliefs. However, not having a reason may lead to indecisiveness. For example, a decision maker has three options, but cannot find a consequentialist reason to choose one option over the other. Not being able to differentiate the choices indicates that the decision maker has inadequate logic to choose one option over the other. If the decision maker cannot

differentiate the choices, he/she will not have a good reason to choose. The extent to which an individual cannot develop an accepted reason for choice may cause a state of indecisiveness in the decision maker.

For example, a manager has many indistinguishable options and the uncertainty and consequences are high. The manager may feel that he or she is missing something, or lacks the ability to make a decision because he or she cannot differentiate. If there is enough uncertainty and risk, and the manager cannot distinctly find a clear superior choice, the manager may feel stuck in the decision-making process and have high levels of negative concurrent emotions. The manager does not know what to do; the issues seem overwhelming due to the amount of risk of a choice and the pressure on the manager to change. A manager's inability to find a clear superior choice may lead to a state of indecision.

Hypothesis 6: Incomparable alternatives are positively related to indecisiveness.

Summary

I propose three factors that lead to difficult decisions and hypothesized that each component is independently positively related to indecisiveness. Further, the component of selection difficulty is comprised of three sub-components: incomparable alternatives, preference uncertainty, and poorly structured decisions. This logic is based on the definition of indecisiveness, which is defined as high levels of negative concurrent emotions and feeling stuck in the decision-making process. Five hypotheses were developed with regard to the components and sub-components, suggesting that each is positively correlated with indecisiveness. In sum, I hypothesize that the combination of

experienced negative emotions and being unable to decide will “imprison” the decision maker and make him or her want to escape from this current state.

Decisional Self-Efficacy

Low decisional self-efficacy may influence levels of indecisiveness. Self-efficacy can be defined as an individual’s estimation of his/her capacity to orchestrate performance on a specific task (Gist & Mitchell, 1992). Gist and Mitchell (1992) looked specifically at *decisional* self-efficacy, which occurs when the decision maker focuses on his or her perceived ability to make a decision that is beneficial and meets certain objectives and goals.

Gist and Mitchell (1992) demonstrated that decisional self-efficacy affects one’s effort, persistence, and belief in attaining certain goals (Gist & Mitchell, 1992). Individuals are motivated to act only if they perceive they can bridge the discrepancy between goals and performance (Westen, 1985). Based on work done by Westen (1985), I hypothesize that if the decision maker perceives that they are incapable of making a decision, they will be more likely to fall into a state of indecisiveness. Recall that whether or not one becomes indecisive is based on the three factors of difficult decisions that were previously discussed. However, I believe that perceptions of one’s ability to make decisions have a strong influence on the relationship between difficult decisions and indecisiveness (see Figure 2).

Literature in counseling psychology shows strong evidence that decision-making efficacy and outcome expectations relate to career indecision (Betz, Klein, & Taylor, 1996). Moreover, this study indicated that self-efficacy beliefs were the best predictor of career indecision, and outcome expectations were the best predictor of exploration

intentions (Betz et al., 1996). Individuals evaluate their own resources and capabilities for dealing with stressors. Coping responses depend on how individuals construe their ability to respond; if they believe they have adequate resources to deal with this new event, they are likely to respond more actively.

An examination of self-efficacy appraisals on coping behaviors (Terry, 1991; 1994) suggests that after controlling for self-esteem and generalized control beliefs, “self-efficacy appraisals were positively related to the use of instrumental behaviors and negatively related to the use of escapism/self-blame strategies” (Blais, 2001). Evidence to support this notion shows that self-efficacy beliefs were the best predictor of career indecision (Betz & Voyten, 1997). Therefore, I hypothesize that self-efficacy moderates the relationship between indecisiveness and each of the components of a difficult decision.

Hypothesis 7: The relationship between preference instability and indecisiveness is moderated by decisional self-efficacy.

Hypothesis 8: The relationship between anticipated regret and indecisiveness is moderated by decisional self-efficacy.

Hypothesis 9: The relationship between preference uncertainty and indecisiveness is moderated by decisional self-efficacy.

Hypothesis 10: The relationship between poorly structured decisions and indecisiveness is moderated by decisional self-efficacy.

Hypothesis 11: The relationship between incomparable alternatives and indecisiveness is moderated by decisional self-efficacy.

In each case (i.e., hypothesis 7-11) the relationship between the components of difficult decisions and the level of indecisiveness will be stronger when the decision maker's self-efficacy is weaker.

The Role of Indecisiveness in the Decision Making Process

Making a difficult decision can be an emotional process that leads to stress, anxiety, and fear. By acknowledging the emotional component of decision-making, we can see how negative concurrent emotions may reach an unmanageable level, thereby causing the decision maker to focus his attention on coping with the emotions rather than the choices and consequences of the decision. Indeed, Lazarus and Folkman (1984), Janis and Mann (1977), and Loewenstein et al. (2001) suggest that emotions play a vital role in the decision-making process.

Being undecided-uncomfortable (the basic definition of indecisiveness) is extremely difficult to deal with, and as such, individuals attempt to escape from its mental and emotional paralysis. Therefore, I argue that individuals do not use coping behavior because of the difficulty of the decision, but because difficult decisions lead to indecisiveness, which is a very difficult state to tolerate. As stated earlier, *this means the actual act of making a decision functions as a coping behavior in and of itself*. Hence, decision makers may resort to a form of nonconsequentialist dysfunctional decisional coping behavior due to the indecisiveness state. This is different from dysfunctional decisional coping behavior, which solely is explained by cognitive and consequential evaluations. Please see Figure 2 for the graphic representation of the NDMM model.

From the literature review, there are two basic assumptions that are made with regard to making difficult decisions: (1), a difficult decision can lead to a heightened

state of stress, and (2), difficult decisions lead to some form of dysfunctional coping behavior. These two fundamental assumptions have strong influences on each other because being in a heightened state of stress is a strong antecedent to most general (e.g., not decision specific coping behavior) coping behaviors. Further, not resolving issues and reverting to dysfunctional coping behaviors may sustain and draw out a stressful state. Therefore, the two underlying assumptions are strongly linked. As noted earlier, indecisiveness is the decision maker's decisional prison, which I argue mediates the relationship between the difficult decision and dysfunctional decisional coping behavior. Within this decisional prison, there is a heightened level of stress due to the inability to make a decision. Therefore, the assumption of a heightened level of stress may be linked to falling into a state of indecisiveness.

Current literature in decision-making suggests a direct link between difficult decisions and dysfunctional decisional coping behavior. However, this does not explain why a decision maker would need to escape from a difficult decision. It seems more likely that the decision maker will escape from his or her inability to make a decision as opposed to the decision itself. A decision maker who faces a difficult decision can attempt to follow through on a vigilant/problem focused path regardless of the intensity of concurrent emotions. This individual may become overwhelmed by being undecided-uncomfortable and fall into long term decisional paralysis, or become overwhelmed and escape from the decision-making process. Of these choices, *there is no direct link between difficult decisions and nonconsequentialist dysfunctional decisional coping behaviors* leading us to the hypothesis that indecisiveness mediates the relationship

between difficult decisions and nonconsequentialist dysfunctional decisional coping behaviors.

Hypothesis 12: The relationship between difficult decisions and nonconsequentialist dysfunctional decisional coping behaviors is mediated by indecisiveness.

Summary

I first discussed appraisals (Lazarus & Folkman, 1984), which activate coping behaviors. I then discussed the three dominant dysfunctional decisional coping behavior models: emotion-focused coping, defensive avoidance, and decision avoidance. Lastly, I discussed how all three models suggest that difficult decisions lead to dysfunctional decisional coping behavior. This establishes that the literature suggests the notion that difficult decisions directly lead to or cause dysfunctional decisional coping behavior. However, I hypothesize that indecisiveness does play a critical role in the relationship between dysfunctional decisional coping behavior and decision-making.

I have suggested that indecisiveness leads to nonconsequentialist dysfunctional decisional coping behavior, and that individuals may make decisions to alleviate negative concurrent emotions created by the decision. Much work has been done on the conceptual side showing how decisions can be conflict ridden. From this line of research, very few empirical studies have attempted to measure the relationship between decision-making and dysfunctional decisional coping behavior. Therefore, I developed the construct of indecisiveness and explained its role in the decision-making process. I argue that the relationship between difficult decisions and nonconsequentialist dysfunctional decisional coping behaviors is mediated by indecisiveness.

CHAPTER IV

METHODS

Sample

Exactly 578 undergraduate students enrolled in introductory to advanced business and psychology courses at Texas A&M University participated in this study. The aim of the study is to examine indecisiveness, therefore only those participants who stated that they felt indecisive completed the indecisiveness scale, allowing for a final data set of 465.

Those students who participated were compensated through extra credit for the course they were taking, and had a chance to win one of four \$50 prizes. The sample consisted of 51% female and 49% male participants. The participants' age ranged from 18-29 with an average age of 21.46.

The sample was selected for various reasons. This study aims to understand human decision-making and attempts to capture a wide range of critical decisions individuals must face. Advanced level college students approaching graduation are a suitable sample of individuals facing many changes and crucial decisions. Due to the basic nature of the questions I am attempting to answer, it is not necessary to focus on individual decision-making in a specific organization. However, future research may benefit from studying nonconsequentialist decision-making in an organizational context or using a specific sample group (e.g., business executives).

Design and Procedure

This study attempts to move beyond the limitations of scenarios and controlled experiments within the decision-making literature, and attempts to understand real decisions that are important to real people. A unique methodology was utilized to assess how emotions affect decision-making and to test the mediation of indecisiveness between difficult decisions and dysfunctional decisional coping behavior. In general, it is beneficial to study decision-making in a natural setting. However, much work in the judgment and decision-making field uses simulations and scenarios, where subjects play out roles or pretend to be in hypothetical situations. Unfortunately, this methodological design cannot capture genuine emotions that occur during the decision-making process, perhaps due to the lack of personal relevance to the participant. Therefore, I examined decision-making in a naturalistic setting using the participants' own decision. Subjects were asked to write in paragraph format the "biggest" decision they were currently facing in their life and to complete a battery of questionnaires with regard to their "big" decision. Due to participants' strong emotional investment in the experiment, this unique methodological design has allowed me to better assess emotions experienced during the decision-making process.

Data analyzed in this study was collected at one time period in a designated computer lab on campus. The study was conducted using a software program that provided detailed instructions guiding the participants through the questionnaires. I was also present at the lab at all times to help students with any questions. The software program encoded time, date, and all other aspects of each participant throughout the study. Participants came to a large computer lab (150 computers) once a week on the

same day of the week for four weeks. The computer lab was reserved for eight hours a day three days (Tuesday-Thursday) a week during June 3rd and July 2nd 2003. In week one, participants created a unique login name and password. This allowed me to limit and track each participant over the four weeks, and to ensure the integrity of the study. Each subsequent week (time 2-4) participants came to the lab and logged in using their unique login name and password, and were immediately able to review their description of the biggest decision they are currently facing in their lives.

Due to the nature of the software program, participants were not allowed to continue to the next series of questions without completing all the questions on their current page. This nearly guaranteed that all participants completed every question, therefore, no action was needed with regard to missing values.

At Time 1, after creating their login and password, participants filled out demographic data. Participants were immediately asked to write approximately two paragraphs (15-20 minutes) about their big decision, components of the decision, and the alternatives in detail. Excitingly, students appeared eager to write about their decision and on average wrote approximately 630 words, taking 30-60 minutes. The students seemed intrinsically motivated to talk about their decision and appeared to take a great deal of care writing and answering the questions. After participants wrote paragraphs about their big decision, they were asked if they felt indecisive about their decision. The software program guided participants through the survey, and only individuals who stated they felt indecisive about their decision completed the indecisiveness scale (see Figure 7). Of the 578 who participated, 465 stated they felt indecisive about their “big” decision.

With regard to their “big” decision, participants completed five questionnaires on week 1: the Three Factor Difficult Decisions Questionnaire (TFDDQ); the Indecisiveness Scale, the Nonconsequentialist Dysfunctional Decisional Coping Behavior Scale (NDDCBS); the Decisional Self-Efficacy Scale, and the Analytic-Emotion Decision-Making Questionnaire. On a weekly basis (weeks 2-4) participants were re-administered the Three Factor Difficult Decisions Questionnaire (TFDDQ); the Indecisiveness Scale, the Nonconsequentialist Dysfunctional Decisional Coping Behavior Scale (NDDCBS); and Decisional Self-Efficacy Scale, among other scales. However, the current analyses will focus solely on data collected in week 1 (Note: only those individuals who felt indecisive were asked to complete the Three Factor Difficult Decisions Questionnaire (TFDDQ), the Indecisiveness Scale, and the Nonconsequentialist Dysfunctional Decisional Coping Behavior Scale (NDDCBS)). All of these measures will be described in more detail below.

Measures

Indecisiveness Scale

The development of the Indecisiveness Scale is based on the theory development section of this study, which is based on Loewenstein et al. (2001), Jones (1989); Lamprell (1989), and Zeelenberg and colleagues' (Zeelenberg, 1999; Zeelenberg & Beattie, 1997; Zeelenberg, Beattie, Van Der Plicht, & De Vries, 1996) work on concurrent emotions during the decision-making process.

The Indecisiveness Scale is a 13-item measure (see Scale A) assessing one's indecisiveness towards a particular decision. Participants give their ratings on a six-point Likert scale ranging from “Strongly Disagree” to “Strongly Agree.” The

questionnaire's instructions are: "Please answer the following questions based on the biggest decision you are currently facing in your life." The item scores are summed to produce an overall Indecisiveness Scale score with a maximum score of 78. Using the Indecisiveness Scale in the current study resulted in a Cronbach's Alpha of 0.919 for the sample. An exploratory factor analysis of the Indecisiveness Scale was conducted in which factors were extracted using iterated principle factors and were rotated obliquely. Several traditional criteria for determining the number of factors supported a one-factor solution. Inspection of the eigenvalues of the correlation matrix of the 13 variables revealed only one eigenvalue greater than 1.00. This one-factor had an eigenvalue of 6.7, and explains more than 51% of the variance (see Table 1). Inspection of the loading matrix associated with the one-factor solution indicated an approximation of a simple structure (each item loaded highly on only one factor with no evidence of substantial cross loading). Eigenvalues for factors 2-13 were all below 1.00. Examination of a scree plot of the data indicated a sharp break after the first factor, visually similar to an "elbow," suggesting the presence of one underlying factor (see Table 1). Scree Plot results in conjunction with the eigenvalue suggest that the Indecisiveness Scale is measuring one construct.

Decision-Making Strategy Scale

To assess convergent and divergent validity of the indecisiveness construct, I used an adapted version of the Decision-Making Style Inventory (DMSI; Nygren, 2000). The DMSI attempts to categorize multiple normative and descriptive decision-making strategies. Though the scale in its original form speaks to how an individual makes decisions in general, I adapted the scale to reflect the strategy the decision maker is

using on their current “big” decision. The Decision-Making Strategy Scale contains two subscales, one reflecting logical strategies (e.g., I have defined what I want based on logic and will make a decision that will maximize what I want), and one reflecting emotional strategies (e.g., in the end I will rely on my gut feeling to make my final decision) (see Scale 2).

The logical portion of the Decision-Making Strategy Scale is a 7-item questionnaire using a six-point Likert scale. The questionnaire measures whether the decision maker is using a logical strategy to make a decision. The questionnaire’s instructions and ratings mirror that of the Indecisiveness Scale. The item scores are summed to produce an overall score with a maximum score of 42. For the sample of 578 participants, the Logical Strategy subscale has a Cronbach’s Alpha of 0.75.

The Emotional subcategory of the Decision-Making Strategy Scale has 11 items and uses a six-point Likert scale. Similar to the Logical portion of this questionnaire, the items assess whether the decision maker is using an emotional strategy to make a decision. Item scores are summed, which results in an overall score of 66. For the sample of 578 participants, the Emotional Strategy subscale has a Cronbach’s Alpha of 0.79.

The Logical and Emotional Strategy subscales showed a negative correlation with each other ($r = -.133, p < .002$) using a 2-tailed Pearson correlation. For convergent validity, indecisiveness would be correlated positively with a decision strategy based on emotions. Accordingly, the correlation between indecisiveness and an emotional decision strategy is positive, ($r = .085, p < .042$) using a 2-tailed Pearson correlation, suggesting that there is some convergent validity within the construct. For divergent

validity to occur, the decision maker who is indecisive would most likely not take on a logical decisional strategy. The correlation between indecisiveness and having a logical decisional strategy is nonsignificant ($r = .044$, $p < .297$) using a 2-tailed Pearson correlation. There seems to be no significant negative correlation limiting the idea of divergent validity.

Nonconsequentialist Dysfunctional Decisional Coping Behavior Scale

The Nonconsequentialist Dysfunctional Decisional Coping Behavior Scale (NDDCBS) was developed based largely on the theory development part of this paper, and work by Loewenstein et al. (2001). The NDDCBS is a 6-item questionnaire using a six-point Likert scale (see Scale 3). The questionnaire measures how one copes with concurrent emotions experienced during decision-making. The questionnaire's instructions and ratings mirror that of the Indecisiveness Scale. The item scores are summed to produce an overall NDDCBS score with a maximum score of 36. For the sample of 465 participants, the NDDCBS has a Cronbach's Alpha of 0.82.

An exploratory factor analysis of the NDDCBS suggests a one-factor scale. With an eigenvalue of 3.2, and the one factor explaining more than 53% of the variance (see Table 2). Eigenvalues for factors 2-6 were all below 1.00. A scree plot gives a visual display similar to an "elbow," (see Table 2) suggesting one factor. Therefore, both the scree plot and eigenvalues suggest that the NDDCBS is measuring one construct.

Three Factor Difficult Decision Questionnaire

The Three Factor Difficult Decision Questionnaire (TFDDQ) is based on the theory development section of this paper which in large part is based on Anderson's

(2003) work on avoidance, and Janis and Mann's (1977) work on conflict and decision-making. The TFDDQ is an 11-item scale measuring the overall difficulty of the decision. Participants give their ratings on a six-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree". The questionnaire's instructions are: "Please answer the following 11 questions based on this statement- My indecisiveness over my big decision has been due to...." followed by the 11 items and Likert scale (see Scale 4).

The TFDDQ is composed of five subscales; anticipated regret, preference instability, incomparable alternatives, ill structured decisions, and preference uncertainty. Each subscale score is aggregated by summing individual subscale items. The five subscales are summed to produce an overall TFDDQ score with a maximum score of 66. Using the TFDDQ in the current study resulted in a Cronbach's Alpha of 0.827 from the sample of 465 participants.

Individually the components that make up a difficult decision had the following scale reliabilities: *anticipated regret* Cronbach's Alpha of 0.87, *preference instability* Cronbach's Alpha of 0.790, *incomparable alternatives* Cronbach's Alpha of 0.799, *ill structured decision* Cronbach's Alpha of 0.768, and lastly *preference uncertainty* Cronbach's Alpha of 0.727.

An exploratory factor analysis of the TFDDQ resulted in a one-factor scale. With an eigenvalue of 4.4, and the one factor explaining 37% of the variance (see Scale 5). Eigenvalues for factors 2-11 were all below 2.00. A visual display of the factor analysis displays a scree plot similar to an "elbow" and in combination with the eigenvalue gives good credence that the TFDDQ is measuring one construct (see Table 3). Though there are four factors that have eigenvalues above 1.00, this is not surprising.

This measure is a multifaceted construct, and the complexity of the construct is reflected in this factor analysis. However, in general the factor loading and explained variance suggests one factor. Multifaceted and complex constructs such as difficult decisions will not have as clear of a distinction as other scales in this study, but the factor loading still strongly indicates a one factor model.

Decisional Self Efficacy Scale

Regardless of whether participants were indecisive or not, all participants completed the Decisional Self-Efficacy Scale (see Scale 5), which is composed of the Self-Efficacy Scale (Blais, 2001) and items from the Career Decision-Making Self-Efficacy Scale (CDMSE; Taylor & Betz, (1983). Both scales were chosen because they assess the decision maker's belief that he or she is able to accomplish the tasks needed to make a successful decision. Blais' Self-efficacy Scale is a 6-item scale based on work by Bandura (1977) on efficacy expectations and Lazarus and Folkman (1984) work on secondary appraisals. As noted by Blais (2001), existing scales do not capture one's decisional beliefs but focus largely on non-decisional behaviors.

The six items of Blais' Self-Efficacy Scale were combined with four items from the self-appraisal subscale of the CDMSE to create the 10-item Decisional Self-Efficacy Scale used in this study. The original CDMSE is vocationally based, therefore wording for the four items were adapted slightly to accommodate the general decision-making focus of the current study.

The Decisional Self-Efficacy Scale developed for this study uses a 6-point Likert scale, with a range of "Strongly Disagree" to "Strongly Agree" to specify one's perceived efficacy in successfully making a good decision. Using the Decisional Self-

Efficacy Scale in the current study resulted in a consistency estimate (alpha coefficient) of 0.891 for the sample.

CHAPTER V

RESULTS

Introduction

The current analyses were performed solely on data collected at week 1. Correlations for the self-report measures (N= 465), means, standard deviations, and consistency estimates (alpha coefficient) for the measures can be found in Table 4. Hypotheses 2-6 examine the relationship between the Three Factor Model of Difficult Decisions and indecisiveness (see Table 5 and 6). Hypotheses 7-11 ask if decisional self-efficacy plays a moderating role between the Three Factor Model of Difficult Decisions and indecisiveness (see Table 5).

The Relationship Between Indecisiveness and Coping Behavior

Hypothesis 1 predicts that indecisiveness is positively related to dysfunctional decisional coping behaviors. There seems to be a strong significant positive association between indecisiveness and dysfunctional decisional coping behavior ($r = .581$, $p < .0001$). Regressing indecisiveness on dysfunctional decisional coping behavior using OLS showed an $r^2 = .337$, $F = 235.75$, $p = .0001$ (see Table 6).

Antecedents of Indecisiveness

Hypotheses 2-6 predict that the components of the Three Factors of Difficult Decisions (TFDD) are positively related to indecisiveness. Statistically significant positive correlations for the main effects of the hypothesized antecedents of indecisiveness were found (see Table 6). However, I conducted further analyses with all components of the TFDD scale centered and included in one model, resulting in

variables of the TFDD no longer being significant *except* for anticipated regret (see Model 1 in Table 5). The anticipated regret variable showed a significant positive association with indecisiveness ($t= 2.08 < .05$) controlling for the centered variables: preference instability, preference uncertainty, poor structure, and incomparable alternatives. All other variables in Model 1 (see Table 5; Hypothesis 3-6) were not significant.

Moderating Effect of Decisional Self-Efficacy

Hypotheses 7-11, which posit that decisional self-efficacy moderates the relationship between the Three Factors of Difficult Decisions and indecisiveness, showed *no* significant results. When testing for moderation, one must be concerned with multicollinearity, due to the interaction terms being used. To alleviate the concerns of multicollinearity, Aiken and West (1991) suggest that all independent continuous variables be centered. Centering was accomplished by standardizing each scale and subtracting each standardized score with the mean of the standardized scale. For Hypotheses 7-11, no moderating effects were shown (see table 5).

Mediation of the Nonconsequentialist Decision-Making Model

Hypothesis 12 predicts that difficult decisions and dysfunctional decisional coping behavior is mediated by indecisiveness. To test for mediation, Baron and Kenny (1986) state four conditions must be met. The first condition is that the independent variable must affect the mediator in a regression equation. Second, the independent variable must be shown to affect the dependent variable in a regression equation. Third, the mediator must affect the dependent variable. Lastly, the effect of the independent

variable on the dependent variable must be less on the third equation than in the second equation, with full mediation occurring when the independent variable has no effect when the mediator is controlled.

In Hypothesis 12, the Three Factor Model of Difficult Decisions is the independent variable, dysfunctional decisional coping behavior is the dependent variable, and indecisiveness is the predicted mediator. To satisfy condition 1 (Baron & Kenny, 1986), I regressed indecisiveness on difficult decisions and found a significant effect, $F=10.17$, $p=.002$ (see table 6). Second, I regressed dysfunctional decisional coping behavior on difficult decisions and found a significant effect, $F= 4.573$, $p=.033$. Lastly, I regressed dysfunctional decisional coping behaviors on both difficult decisions and the indecisiveness scales. The model showed indecisiveness with a beta of $.579$, $t = 15.120$, $p<.0001$, and difficult decisions with a beta of $.014$, $t = .366$, $p< .714$. Indeed, the Three Factors of Difficult Decisions has no effect when indecisiveness is controlled, resulting in a *full mediation*, supporting Hypothesis 12.

Results found in hypotheses 2-6 (i.e., Model 1 in Table 5) indicated no significant relationship for four components of the TFDD when controlling for anticipated regret. Further analyses were conducted to test the mediation of indecisiveness between anticipated regret and nonconsequentialist dysfunctional decisional coping behavior. As mentioned above (Baron & Kenny, 1986), in the first step to test mediation I regressed indecisiveness on anticipated regret $F=9.68$, $p=.002$. Second, I regressed dysfunctional decisional coping behavior on anticipated regret, $F= 4.070$, $p=.044$, and lastly, I regressed dysfunctional decisional coping behaviors on both anticipated regret and the indecisiveness scales. The model showed indecisiveness with

a beta of .579, $t = 15.142$, $p < .000$, and anticipated regret with a beta of .010, $t = .273$, $p < .785$, indicating full mediation.

According to Holland (1988) and Sobel (1990) mediation implies a causal relationship where the independent variable causes a mediator which causes a dependent variable. Hence, the results of Hypothesis 12 implies a causal sequence, such that difficult decisions to some extent causes indecisiveness, and that indecisiveness to some extent causes nonconsequentialist dysfunctional decisional coping behaviors. The supported full mediation also clarifies our understanding of the direction of hypotheses 1-6. Hypotheses 1-6 did not imply direction or causality, however, the full mediation has clarified and affirmed the Nonconsequentialist Decision-Making Model.

CHAPTER VI

DISCUSSION AND CONCLUSION

Traditionally, the judgment and decision-making literature has interpreted decision-making as rational or irrational, with an attempt to understand and negate common flaws in logic. However, this study supports a nonconsequentialist perspective, suggesting that emotions play a significant role in the decision-making process. By including emotions in the decision-making process, we can move beyond the sole focus of rational-irrational and attempt to also deal with people's emotions during the decision-making process to help them make the best decisions for themselves and others.

By utilizing a standard methodological design, the current study attempts to better understand how individuals make important, real decisions in their own lives. Participants were asked to discuss the biggest decision they are currently facing in their life. This approach elicited a wide range of decisions from participants, allowing me to discover what is important to the decision maker, and in a natural way find out how emotions play an integral part in the decision-making process. Perhaps the most interesting outcome of this methodology is that of the 578 total participants who completed the study, 465 stated that they felt indecisive! In other words, approximately 81% of the participants felt indecisive about their "big" decision.

As noted earlier, research studying indecisiveness is sparse at best, and the need to study the construct has been consistently overlooked in the literature. Researchers may be hesitant to study indecisiveness because the phenomenon is thought to be rare, and does not speak to the general reality of the decision-making process. However, this

study indicates that the presumed anomaly may exist more often than the literature reflects, with only one caveat – the decision must be important to the decision maker for indecisiveness to occur.

Additionally, nonconsequentialist dysfunctional decisional coping behavior (NDDCB) is a recently developed topic that has yet to be further validated empirically. The current results indicate that NDDCB is positively related to indecisiveness, suggesting that individuals do not like to stay in the decision-making process when they have negative concurrent emotions, and consequently, may make a decision to cope with the emotions the decision has created. While much conceptual work has argued that individuals make nonconsequentialist decisions, little empirical evidence has supported such a notion. This study shows that decision makers do indeed make nonconsequentialist decisions. Loewenstein et al. (2001) notes that: “Virtually all current theories in decision-making under risk or uncertainty are cognitive and consequentialist.” They use the word consequentialist in its general sense to describe how individuals make decisions based on the probability of the consequences of each choice. The consequentialist perspective is represented by expected utility theory (i.e., a prescriptive theory where utility = value, and individuals act rationally). If Loewenstein et al.’s (2001) previous quote is accurate, then results of the current study go against virtually all theories in the judgment and decision-making literature. Moreover, this significant relationship between indecisiveness and nonconsequentialist dysfunctional decisional coping behavior suggests that decision makers commonly use NDDCB when in a state of indecisiveness. Dysfunctional decisional coping behavior is not an anomaly

in the decision-making universe, but a common occurrence when one speaks of difficult decisions and indecisiveness.

Understanding the decision-making process is complex, and many individual and environmental variables play critical roles that lead the decision maker to a particular choice. Many participants in this study in the midst of their decision stated they would rather make a harmful or bad decision than no decision at all, and that they were not focused on the consequences of the decision but the emotions the decision created. Consequently, these individuals also endorsed that they were in a state of indecisiveness.

The equivocal results in the literature looking at the relationship between difficult decisions and dysfunctional decisional coping behavior may be due to the confounding of indecisiveness and the inadequate measurement of the difficult decision construct. The ability to measure the difficult decision construct accurately is critical to our ability to understand the decision-making process. This study theoretically developed Three Factors of Difficult Decisions (TFDD) based on work in critical decision-making and decisional avoidance. From the theoretical framework of the TFDD, the TFDD Questionnaire was developed and found to have solid psychometric properties. However, when anticipated regret was controlled for, the other components of the TFDD no longer were significant. Therefore, four of the five variables that comprise the TFDD failed to maintain a significant relationship when controlling for the other variables in the model (see Model 1 in Table 5). Anticipated regret still maintained a significant relationship when controlling for the other variables in the TFDD. This aligns well with Loewenstein and colleagues' (2001) original nonconsequentialist model of decision-making (see Figure 5). Loewenstein et al., (2001) conceptually argued that the vividness

and immediacy of the *anticipated* emotions would lead to *anticipatory* emotions (i.e., concurrent emotions), thus resulting in emotions affecting the decision-making process. Indecisiveness is largely defined as negative concurrent emotions (i.e., anticipatory emotions). Support for Hypothesis 12 (mediation) suggests a causal link between anticipated regret and indecisiveness, giving some empirical validation to Loewenstein et al's., (2001) nonconsequentialist model (Figure 5).

However, the current study does not support work by Anderson (2003) and Janis and Mann (1977) regarding antecedents to concurrent emotions and dysfunctional decisional coping behavior. Variables such as preference uncertainty, incomparable alternatives, and poor structure were not significant when controlling for anticipated regret.

The TFDDQ and the measurement of anticipated regret is an important step in accurately measuring difficult decisions and its relationship to dysfunctional decisional coping behavior. Moreover, the TFDDQ and its anticipated regret component showed a significant positive relationship with indecisiveness. Showing a positive significant relationship between difficult decisions and indecisiveness, coupled with the full mediation effect, suggests that negative concurrent emotions may occur due to difficult decisions.

However, the tests of the moderating effect of decisional self-efficacy between the five components of difficult decisions and indecisiveness (Hypotheses 7-11) showed no significant results. On a positive note, the findings suggest that no aspect of the Three Factors of Difficult Decisions is perceived and reacted to differently in the decision-making process. There may have been greater concern if some of the

components of the TFDD were moderated and others were not. One possible explanation for the lack of a moderating effect may lie in the cognitive nature of decisional self-efficacy. Cognitively, an individual may believe that they can accomplish a successful decision. However, if a difficult decision triggers an overwhelming emotional rush, one's cognitive belief that they can make a successful decision is secondary to what is immediately happening to the decision maker. Even though cognitively we believe that we can and should make a constructive decision, our emotions get the best of us, and we let our irrational fears consume us and we fall into a state of indecisiveness. Therefore, emotions overriding cognitions may explain a lack of a moderating effect.

Furthermore, the current study aided in the theoretical development of the indecisiveness construct, creating a definition of indecisiveness that reflects current research in judgment and decision-making, and separating indecisiveness from other constructs in the field. The positive psychometric properties of the Indecisiveness Scale and the display of convergent validity bode well for the measurement instrument. The theoretical development of the role of indecisiveness in the decision-making process and the subsequent empirical evidence supporting the full mediation are important contributions to the judgment and decision-making literature.

This research appears to offer a new model in decision-making, which strays from the consequentialist paradigm. However, the consequentialist perspective should be viewed as a strong complimentary perspective to the Nonconsequentialist Decision-Making Model. The consequentialist perspective occurs commonly, and represents most

decisions where individuals can functionally cope with the emotions the decision-making process creates.

Limitations and Future Research

The current study employed a unique methodology to study decision-making and indecisiveness, however, there are limitations to this approach. One limitation of the study concerns common source and common method bias. All data were collected from one source, Texas A&M undergraduates, and one methodology, self-report questionnaires. Though the nature of most of the constructs (specifically indecisiveness, decisional self-efficacy, and nonconsequentialist dysfunctional decisional coping behavior) necessitates self-report data, future research should explore the magnitude of this potential common source bias by using structural equation modeling to control for common source.

While the consequentialist and nonconsequentialist perspectives were compared and contrasted from a theoretical sense. This study did not contrast the two perspectives empirically. The current research supports the nonconsequentialist perspective; however, I did not simultaneously test the two opposing models in this study. Future work should model both the consequentialist and nonconsequentialist perspectives in one study to shed light on the context and validity of each.

Another issue is that participants self-selected themselves as indecisive. The participants' response to this yes/no question is the sole selection criteria, and thus individuals who are not truly indecisive may have answered the indecisiveness questionnaire. Future research may use alternative methodology, for example a Likert scale, to measure the degree of indecisiveness.

Furthermore, the correlation and regression analysis of cross-sectional data qualifies any causal inferences. Future research could examine these same relationships in a more controlled setting such as an experimental laboratory or with longitudinal data to assess causality. Lastly, the sample is also limiting from a management perspective. To understand managerial decision-making, subsequent work should use a sample of managers in multiple industries and levels of management.

Given the limitations of the current study, there is much to be gained from future research on the topic of indecisiveness and nonconsequentialist decision-making. For example, the causal link between indecisiveness and decisional coping behavior needs to be better understood. Kline (1998) suggests, among other requirements, that to infer that indecisiveness causes decisional coping behavior, indecisiveness must precede decisional coping behavior. As noted earlier, only data from Time 1 was used for the present analyses – the total study took place over the course of four weeks. Therefore, the complete data set can be analyzed to explore the longitudinal components and subsequent causal nature of dysfunctional decisional coping behavior more thoroughly.

The longitudinal data set can also help us to better understand (1) why an individual commits to a choice and (2) their post-decision reactions and perceptions. Each week participants were asked if they had made a final decision. Over two-thirds of the participants who initially felt indecisive made a decision over the course of the one-month study. When participants indicated that they made a final decision, additional measures were administered that assessed the key cognitive and emotional factors that led to the final choice and post-decisional reactions and behaviors. Future analyses will

expand on this study's understanding of the decision-making process by exploring choice and post-decisional behavior.

Not only has the quantitative data been rich and informative, but a significant amount of qualitative data was collected with the current study. Each week participants were asked to write about key components of the decision-making process. This qualitative data may further the theoretical development of nonconsequentialist decision-making, further validate the construct of indecisiveness, and confirm the conclusions of this study.

The results from this research suggest that indecisiveness plays an important role in the decision-making process. Moreover, this research supports the nonconsequentialist decision-making perspective, and more importantly develops and supports a model that shows how individuals make nonconsequentialist decisions. Though these “big” decisions and the nonconsequentialist perspective may speak to some of the most critical and important decisions in one's life, they do not speak to a majority of daily decisions. Many decisions are *not* “the biggest decision I am currently facing in my life” and do not define one's identity and purpose. Regardless, big decisions are often the most difficult to face and carry the most critical outcomes, further underscoring the need for research in this area.

Conclusions

The measurement and development of the current model, Nonconsequentialist Decision-Making Model, looks at decision-making from a nonconsequentialist perspective using a natural decision-making methodology. The findings show that difficult decisions do lead to indecisiveness, and the indecisiveness state does affect the

decision-making process. These results suggest that decision makers who fall into a state of indecisiveness are willing to sacrifice a decision based on consequences and logic to escape one's negative emotions during the decision-making process.

The judgment and decision-making literature has primarily viewed decision-making from a consequentialist perspective - solely looking at cognitive evaluations of subjective probabilities and anticipated outcomes, and viewing emotions as epiphenomenal. However, new conceptual work in the field has suggested a nonconsequentialist perspective to decision-making (Loewenstein et al., 2001). The nonconsequentialist perspective discusses the importance of concurrent emotions during the decision-making process, and addresses how these concurrent emotions may lead to decisions that are nonconsequentialist in nature. The results of this study support the NDMM model and the nonconsequentialist perspective. Positive results for the NDMM give empirical support to recent work on nonconsequentialist decision-making and the importance of concurrent emotions in the decision-making process.

In the current study the indecisiveness construct was successfully measured, and more than half of the participants felt indecisive during the decision-making process. Being indecisive is a product of negative concurrent emotions while being stuck in the decision-making process. Indecisiveness was shown to mediate the relationship between difficult decisions and nonconsequentialist dysfunctional decisional coping behavior, allowing indecisiveness to be discussed as playing a central role in our understanding of negative concurrent emotions and nonconsequentialist dysfunctional decisional coping behaviors. While the current research contributes much to the field in terms of the indecisiveness construct and testing the nonconsequentialist perspective, future research

is needed to further develop the consequentialist versus nonconsequentialist perspectives and perhaps form a synthesis to this perceived dialectic.

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APPENDICES

APPENDIX A

TABLES

Table 1: Exploratory Factor Analysis and Scree Plot of *Indecisiveness Scale*

<u>Factor</u>	<u>Eigenvalue</u>	<u>% Of Variance In The Observed Variances Accounted For By The Factor</u>
1	6.67	51.31
2	.99	7.65
3	.87	6.72
4	.78	5.97
etc...		

Scree Plot

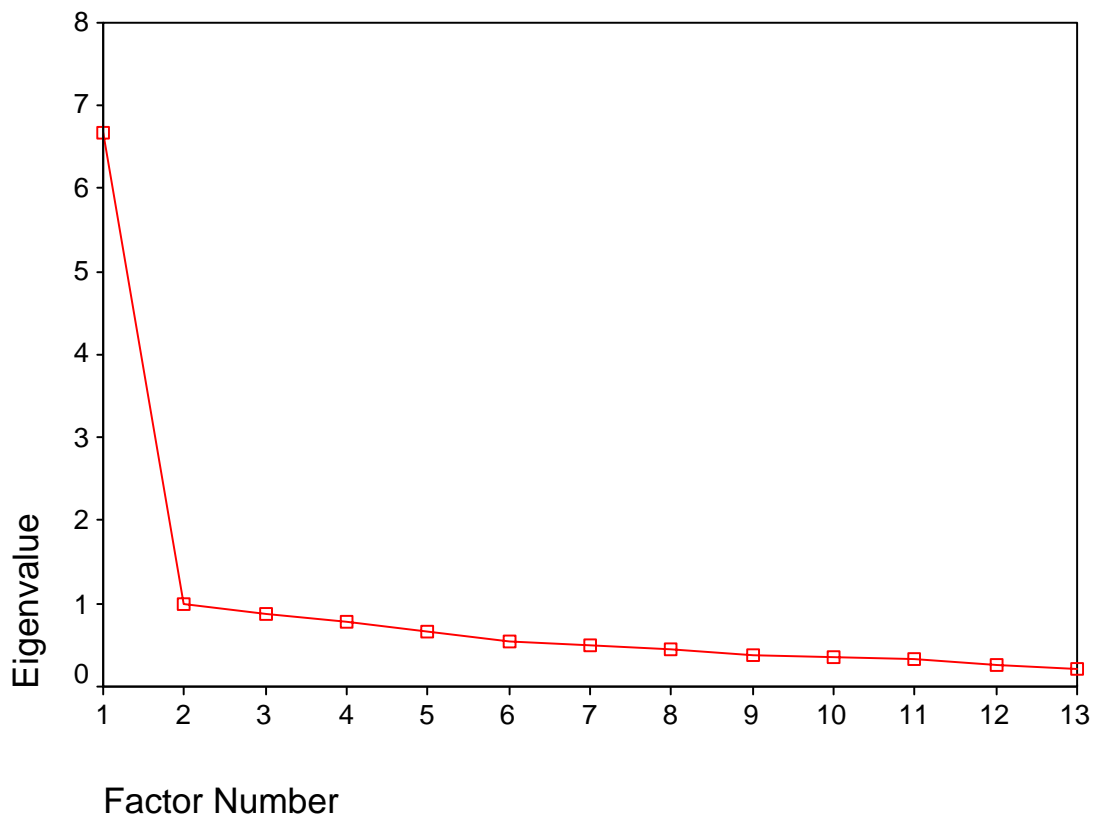


Table 2: Exploratory Factor Analysis and Scree Plot of Nonconsequentialist Dysfunctional Decisional Coping Behavior Scale.

<u>Factor</u>	<u>Eigenvalue</u>	<u>% Of Variance In The Observed Variances Accounted For By The Factor</u>
1	3.19	53.19
2	.91	15.29
3	.62	10.33
4	.56	9.46
5	.39	6.59
6	.30	5.11

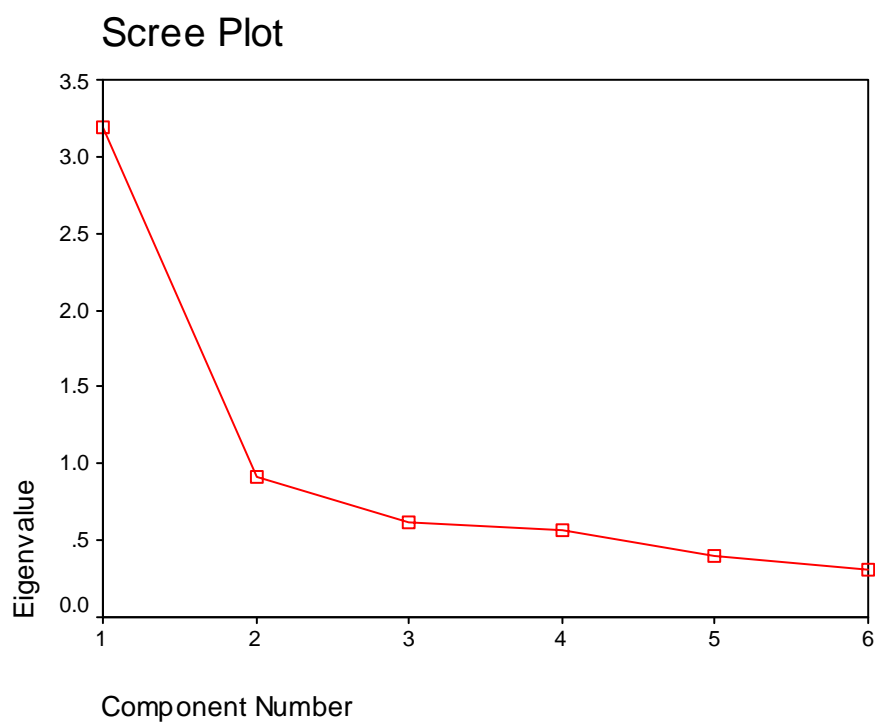


Table 3: Exploratory Factor Analysis And Scree Plot Of The Three Factors Of Difficult Decisions Questionnaire (TFDDQ)

<u>Factor</u>	<u>Eigenvalue</u>	<u>% Of Variance In The Observed Variances Accounted For By The Factor</u>
1	4.43	36.94
2	1.70	14.18
3	1.35	11.26
4	1.10	9.17
5	.77	6.45
6	.56	4.64
etc...		

Scree Plot

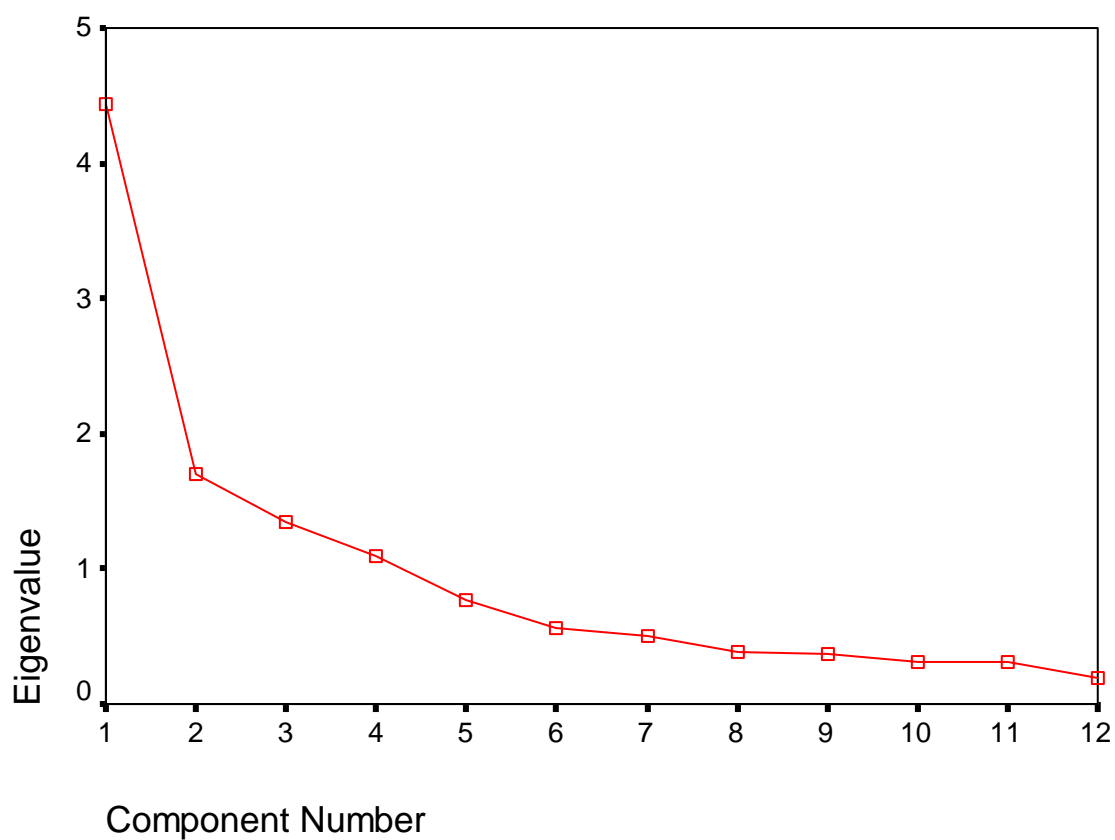


TABLE 4: CORRELATIONS

Variables	Mean	s.d.	1	2	3	4	5
1. Indecisiveness	38.07	13.23	(.92)	.147**	.581**	.044	.085*
2. Decisional Coping (NDDCBS)	14.58	6.03		(.83)	.099*	.088*	.005
3. Difficult Decisions (TFDDQ)	42.68	10.19			(.82)	.063	.059
4. Logic Subscale	30.59	5.73				(.75)	-.133**
5. Emotions Subscale	34.40	8.07					(.79)

* p< .05

** p< .001

Alpha Cronbach reliabilities on diagonal and in parenthesis

TABLE 5: MODERATION

Results of Hierarchical Regression Analyses Examining The Moderating Effect Of Decisional Self-Efficacy On The Relationship Between Difficult Decisions And Indecisiveness ^a

Models	M1	M2	M3	M4	M5	M6	M7
<u>Centered Variables^b</u>							
Decisional self-efficacy	-.143	-.038	-.135	-.233	-.140	-.109	.209
Preference instability	.927	.849	.927	.933	.946	.889	.851
Anticipated regret	2.08*	2.12*	2.08*	2.06*	2.11*	2.10*	2.11*
Preference uncertainty	.935	.989	.935	.902	.922	.986	.939
Poor structure	.263	.330	.267	.310	.226	.240	.385
Incomparable alternatives	.041	.021	.042	-.016	.063	.086	-.058
Interactions using centered variables							
Decisional self-efficacy X Preference instability		-1.34					.270
Decisional self-efficacy X Anticipated regret			-.130				.942
Decisional self-efficacy X Preference uncertainty				.585			.302
Decisional self-efficacy X Poor structure					-.558		.733
Decisional self-efficacy X Incomparable alternatives						-.698	.787

a. Entries are betas

b. Dependent Variable: Indecisiveness

* $p < .05$

TABLE 6: MEDIATION

OLS Estimates of the Mediation Effect of Indecisiveness on the Relationship Between Difficult Decisions and Nonconsequentialist Dysfunctional Decisional Coping Behavior. (N=465)

Variable ^d	Main Effects:						
	r	F	Sig	R ²	Adj. R ²	Change in R ²	Conditions
Preference Instability	.143*	5.74	.017				
Anticipated Regret	.111*	9.68	.002				
Preference Uncertainty	.110*	5.68	.018				
Poor Structure	.086 [†]	3.45	.064				
Incomparable Alternatives	.077 ^{††}	2.78	.096				
Difficult Decisions TFDDQ	.147**	10.17	.002	.022	.021		1
Coping Behavior NDDCB		235.75	.000	.337	.336	.337	
Regress nonconsequentialist dysfunctional decisional coping behavior on difficult decisions.							2
Difficult decisions TFDDQ		4.57	.033	.010	.009		
Regress nonconsequentialist dysfunctional decisional coping behavior on both the difficult decisions and the indecisiveness.							3
Indecisiveness, $\beta = .579$, $t = 15.120$, $p < .05$							
<u>Difficult Decisions, $\beta = .014$, $t = .366$, $p = .714$</u>							

c. Entries are betas

d. Dependent Variable: Indecisiveness

* $p < .05$; ** $p < .001$; [†] $p < .064$; ^{††} $p < .096$

APPENDIX B

FIGURES

FIGURE 1: NONCONSEQUENTIALIST DECISION-MAKING MODEL: MEDIATION

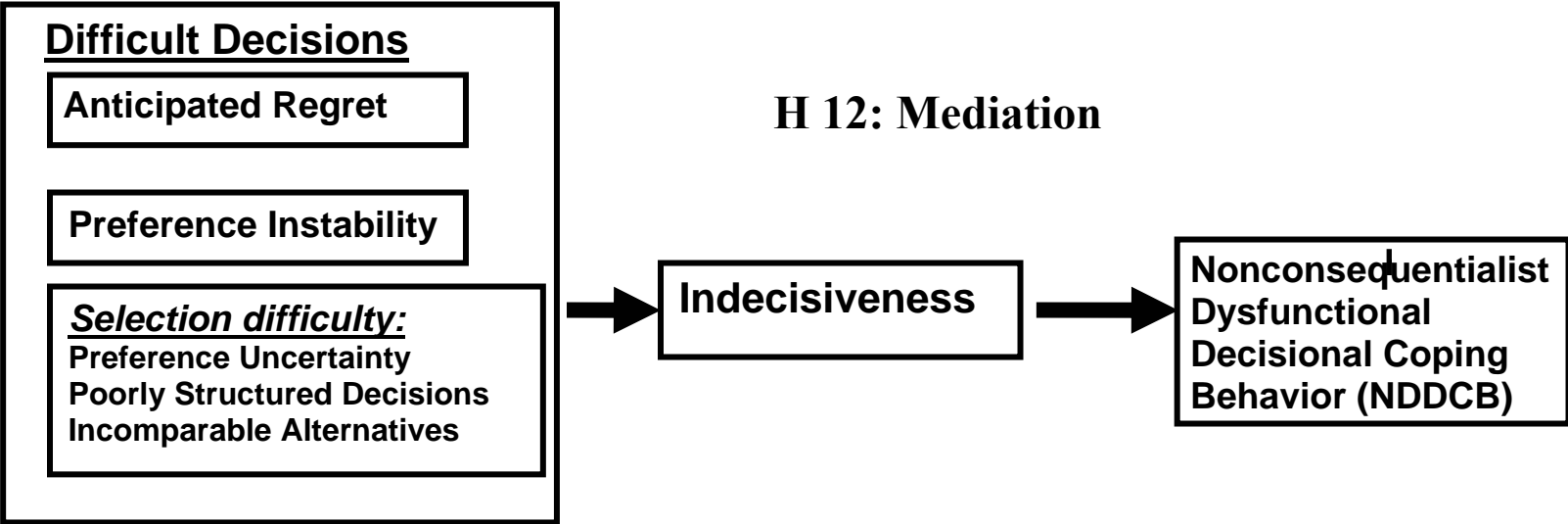


FIGURE 2: NONCONSEQUENTIALIST DECISION-MAKING MODEL

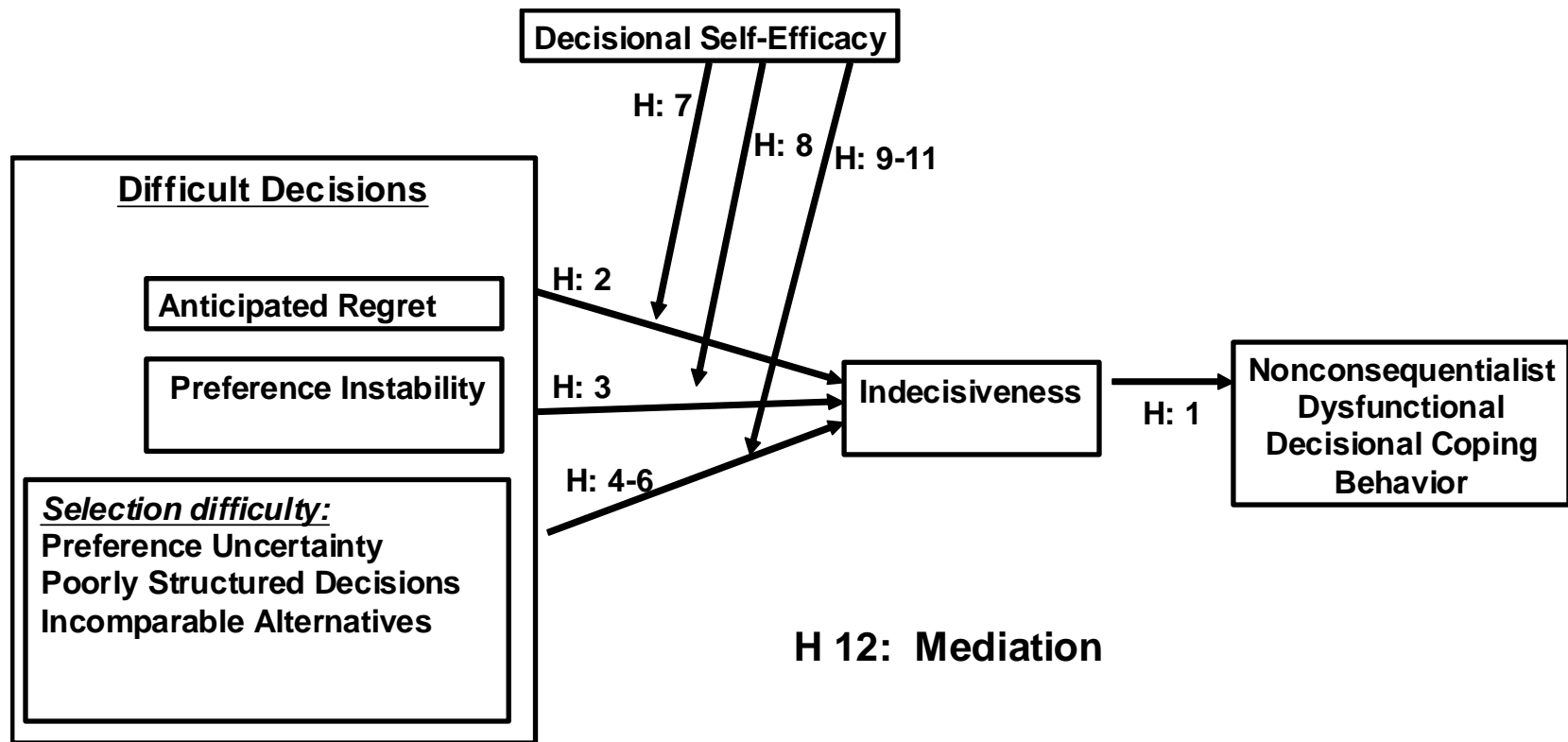
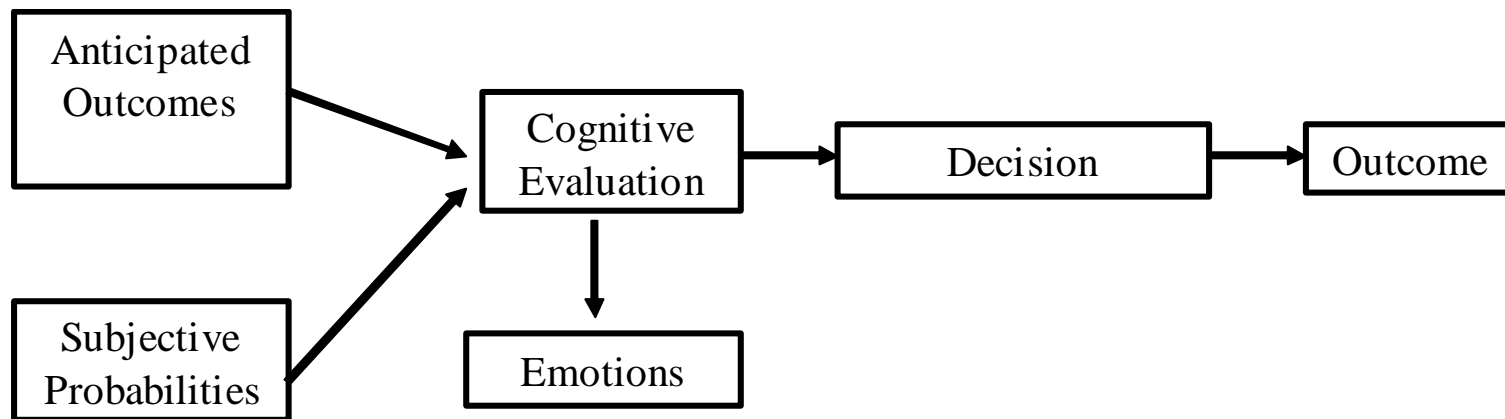
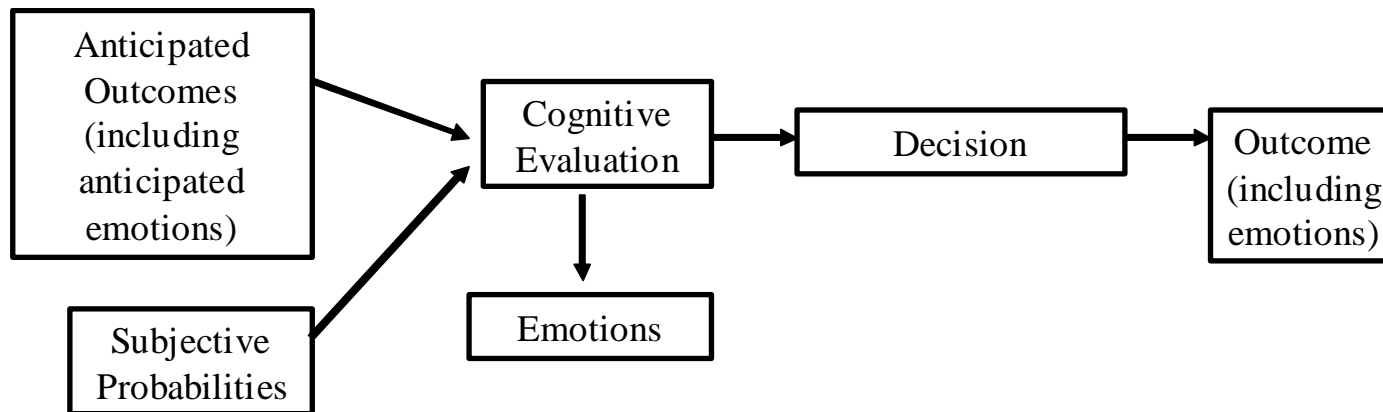


FIGURE 3: CONSEQUENTIALIST PERSPECTIVE



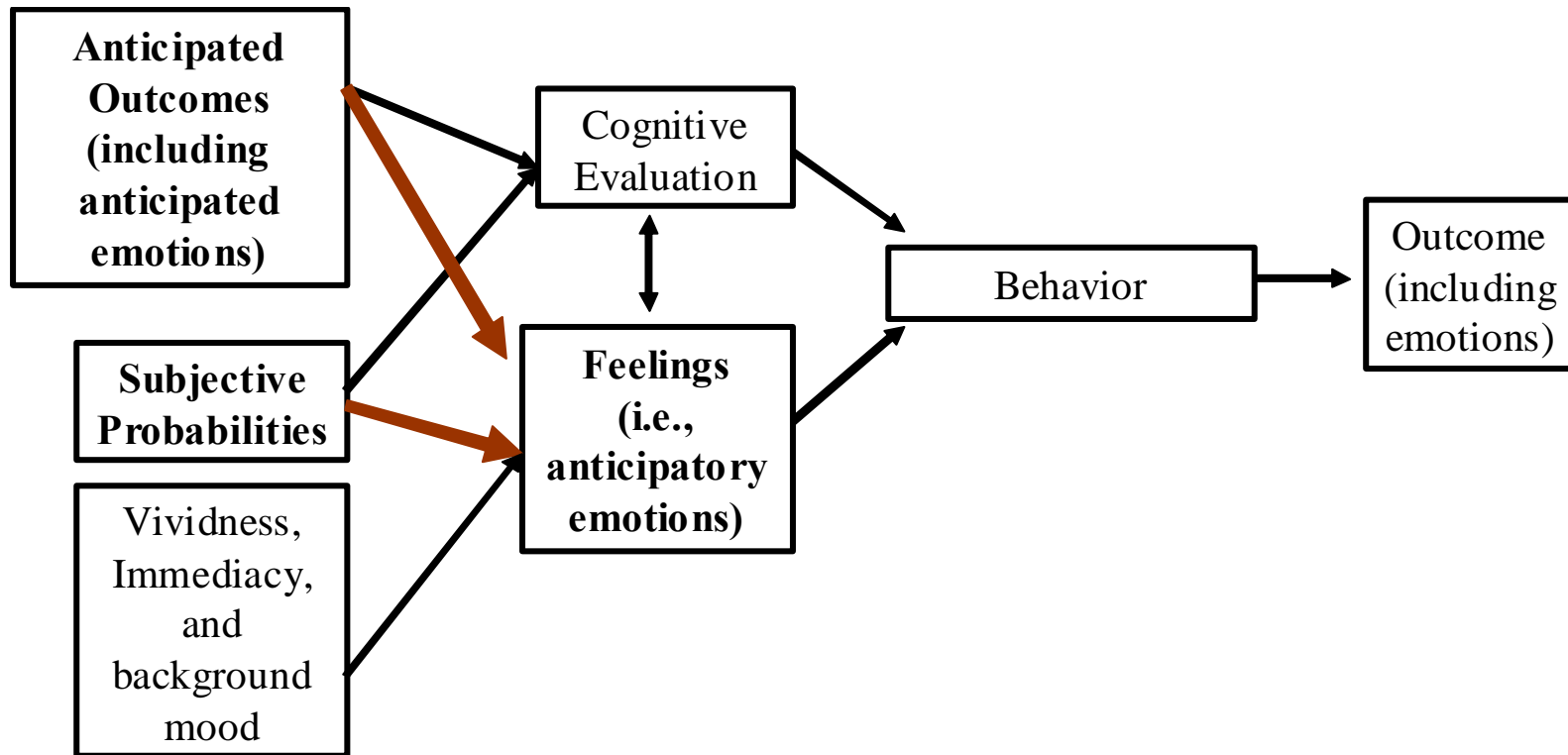
Source: Anderson, C. J. 2003. The Psychology of Doing Nothing: Forms of Decision Avoidance Result From Reason and Emotion. *Psychological Bulletin*, 129(1): 139-167.

FIGURE 4: CONSEQUENTIALIST WITH ANTICIPATED REGRET MODEL



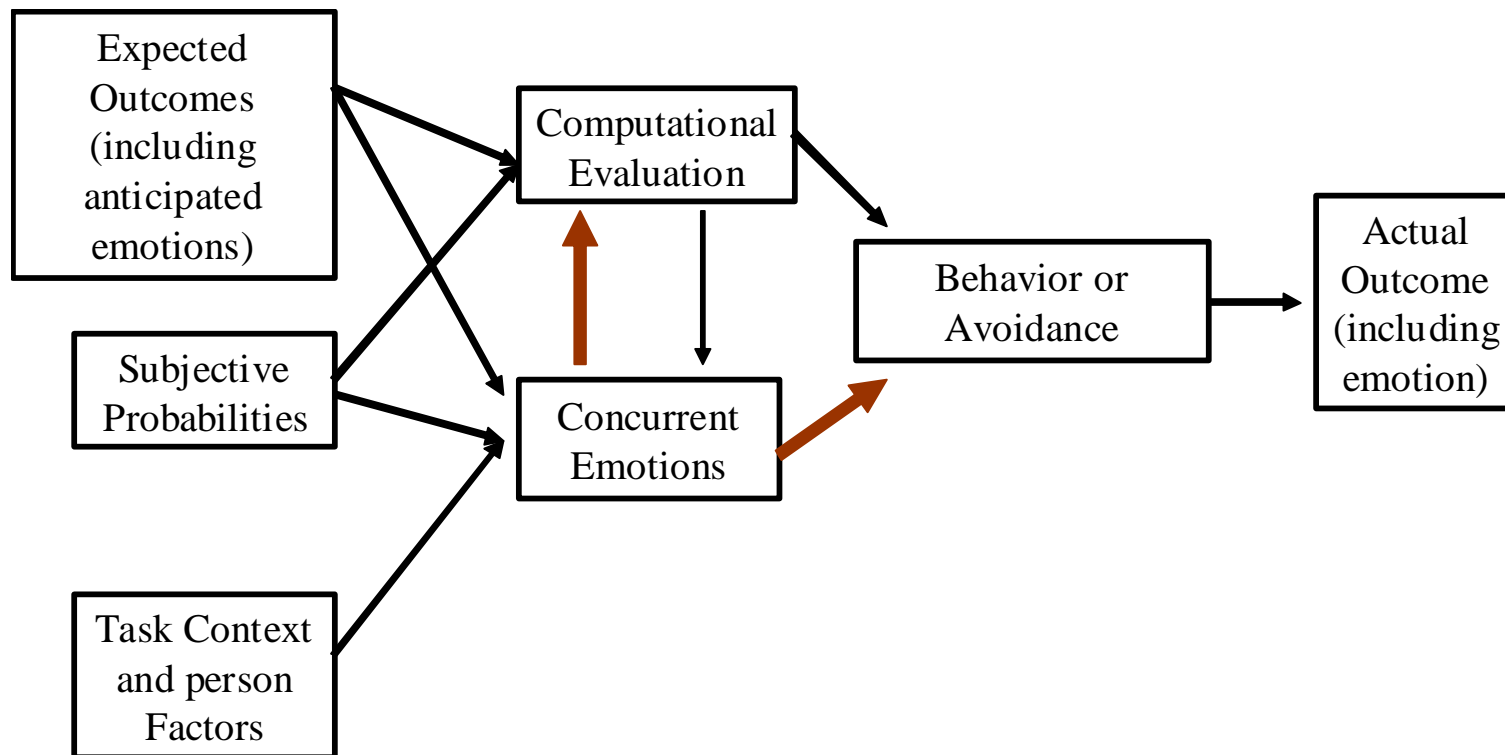
Source: Anderson, C. J. 2003. The Psychology of Doing Nothing: Forms of Decision Avoidance Result From Reason and Emotion. *Psychological Bulletin*, 129(1): 139-167.

FIGURE 5: NONCONSEQUENTIALIST MODEL



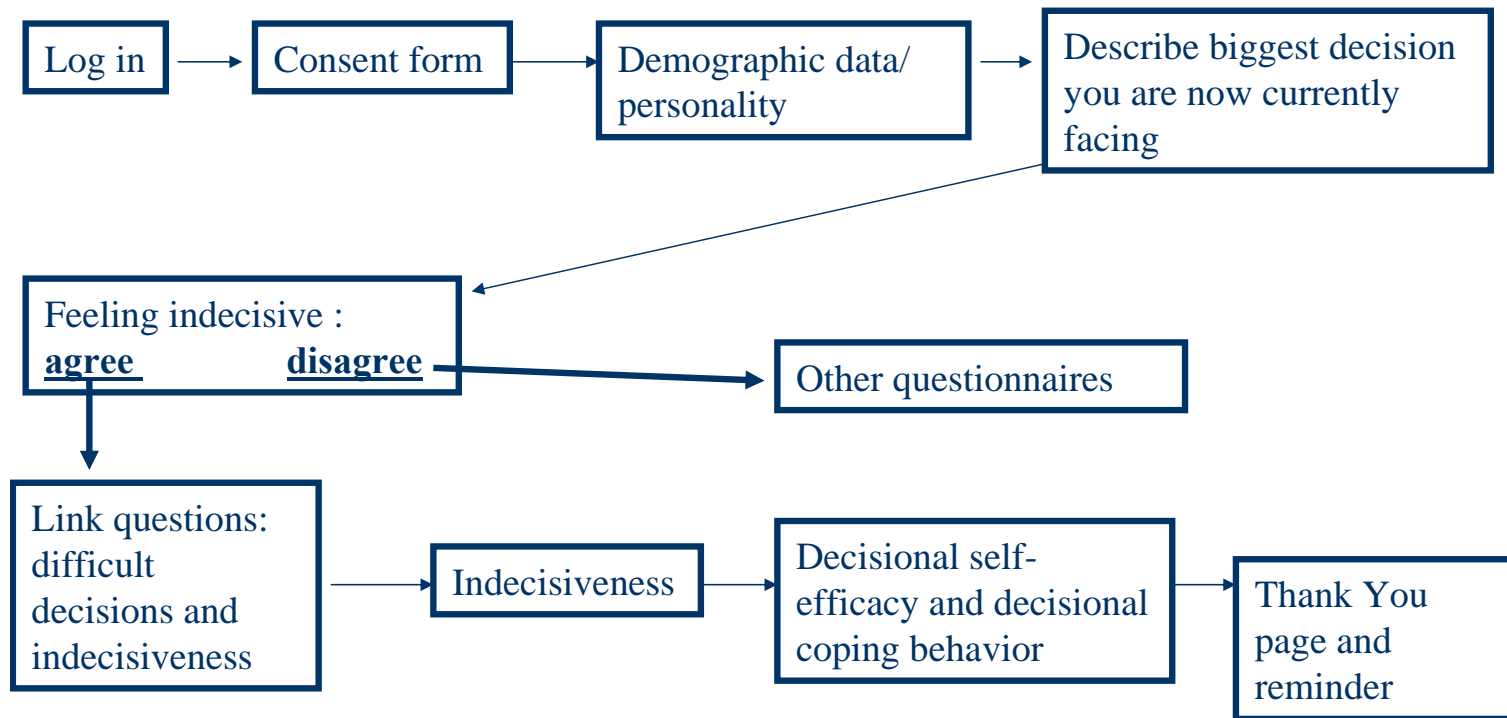
Source: Anderson, C. J. 2003. The Psychology of Doing Nothing: Forms of Decision Avoidance Result From Reason and Emotion. *Psychological Bulletin*, 129(1): 139-167.

FIGURE 6: RATIONAL-EMOTIONAL MODEL



Source: Anderson, C. J. 2003. The Psychology of Doing Nothing: Forms of Decision Avoidance Result From Reason and Emotion. *Psychological Bulletin*, 129(1): 139-167.

FIGURE 7: PARTICIPANT PROCEDURE



APPENDIX C

MEASURES

SCALE 1: INDECISIVENESS SCALE

(NAME OF QUESTIONNAIRE DID NOT APPEAR ON MATERIAL GIVEN TO SUBJECTS)

Please continue to answer these questions with regard to how you currently feel about the "big" decision you are facing. Carefully read each of the following statements and use the 6-point scale.

	<i>Please reflect on your decision and be as <u>honest</u> as possible when answering the questions.</i>	Strongly Disagree 1	Strongly Agree 6
1	Because of this decision I feel incapable of ...	<input type="checkbox"/>	<input type="checkbox"/>
2	I get a lot of negative ...	<input type="checkbox"/>	<input type="checkbox"/>
3	Though this is a big decision I feel ...	<input type="checkbox"/>	<input type="checkbox"/>
4	I am feeling ...	<input type="checkbox"/>	<input type="checkbox"/>
5	Thinking about committing ...	<input type="checkbox"/>	<input type="checkbox"/>
6	At this point, I am ...	<input type="checkbox"/>	<input type="checkbox"/>

	Please reflect on your decision and be as honest as possible when answering the questions.	Strongly Disagree 1	Strongly Agree 6
7	I feel ...	<input type="radio"/>	<input type="radio"/>
8	I cannot think ...	<input type="radio"/>	<input type="radio"/>
9	I am having ...	<input type="radio"/>	<input type="radio"/>
10	I feel ...	<input type="radio"/>	<input type="radio"/>
11	I feel emotionally ...	<input type="radio"/>	<input type="radio"/>
12	I feel comfortable ...	<input type="radio"/>	<input type="radio"/>
13	I feel I cannot ...	<input type="radio"/>	

SCALE 2: DECISION-MAKING STRATEGY QUESTIONNAIRE
(NAME OF QUESTIONNAIRE DID NOT APPEAR ON MATERIAL GIVEN TO SUBJECTS)

We are interested in the process you are going through to make a decision. Think about your current "big" decision, and for each statement below, indicate how much you agree or disagree using the following 6-point scale.

		Strongly Disagree 1	Strongly Agree 6
1	One or more of my choices just ...	<input type="checkbox"/>	<input type="checkbox"/>
2	My emotions ...	<input type="checkbox"/>	<input type="checkbox"/>
3	I have made ...	<input type="checkbox"/>	<input type="checkbox"/>
4	In the end I will ...	<input type="checkbox"/>	<input type="checkbox"/>
5	My first "gut" ...	<input type="checkbox"/>	<input type="checkbox"/>
6	I have rationally ...	<input type="checkbox"/>	<input type="checkbox"/>
7	No option "feels" ...	<input type="checkbox"/>	<input type="checkbox"/>
8	For this decision...	<input type="checkbox"/>	<input type="checkbox"/>
9	I will make a decision ...	<input type="checkbox"/>	<input type="checkbox"/>
10	I have made a mental ...	<input type="checkbox"/>	<input type="checkbox"/>
11	My intuition ...	<input type="checkbox"/>	<input type="checkbox"/>

		Strongly Disagree 1	Strongly Agree 6
12	I will choose my decision based on ...	<input checked="" type="radio"/>	<input type="radio"/>
13	When it “feels” right...	<input type="radio"/>	<input type="radio"/>
14	The logical or rational choice ...	<input type="radio"/>	<input type="radio"/>
15	Certain choices ...	<input type="radio"/>	<input type="radio"/>
16	I have and/or will plan ...	<input type="radio"/>	<input type="radio"/>
17	My first instinct ...	<input type="radio"/>	<input type="radio"/>
18	I am no longer ...	<input type="radio"/>	<input type="radio"/>
19	I will make this decision ...	<input type="radio"/>	<input type="radio"/>
20	I will evaluate the importance ...	<input type="radio"/>	<input type="radio"/>
21	I will rationally and systematically ...	<input type="radio"/>	

**SCALE 3: NONCONSEQUENTIALIST DYSFUNCTIONAL DECISIONAL COPING BEHAVIOR
QUESTIONNAIRE
(NAME OF QUESTIONNAIRE DID NOT APPEAR ON MATERIAL GIVEN TO SUBJECTS)**

Please continue to answer these questions with regard to how you currently feel about the "big" decision you are facing. Carefully read each of the following statements and use the 6-point scale.

	<i>Please reflect on your decision and be as honest as possible when answering the questions.</i>	Strongly Disagree 1	Strongly Agree 6
1	I am willing to make ...	<input type="checkbox"/>	<input type="checkbox"/>
2	I am now trying to cope ...	<input type="checkbox"/>	<input type="checkbox"/>
3	This decision has emotionally ...	<input type="checkbox"/>	<input type="checkbox"/>
4	I am now trying to cope ...	<input type="checkbox"/>	<input type="checkbox"/>
5	I am willing to make any decision...	<input type="checkbox"/>	<input type="checkbox"/>
6	I am willing to sacrifice ...	<input type="checkbox"/>	<input type="checkbox"/>

**SCALE 4: THREE FACTORS OF DIFFICULT DECISIONS QUESTIONNAIRE
(NAME OF QUESTIONNAIRE DID NOT APPEAR ON MATERIAL GIVEN TO SUBJECTS)**

The following statements are based on your feelings of indecisiveness that you are experiencing now. Carefully read the first sentence and each of the following statements, and please respond according to the following 6-point scale.

	My feelings of indecisiveness <i>have been due to:</i>	Strongly Disagree 1	Strongly Agree 6
1	...Not being able...	<input type="checkbox"/>	<input type="checkbox"/>
2	...the potential regret ...	<input type="checkbox"/>	<input type="checkbox"/>
3	...my fear...	<input type="checkbox"/>	<input type="checkbox"/>
4	...consistently ...	<input type="checkbox"/>	<input type="checkbox"/>
5	...the lack of ...	<input type="checkbox"/>	<input type="checkbox"/>
6	...lack of ...	<input type="checkbox"/>	<input type="checkbox"/>
7	...my confusion ...	<input type="checkbox"/>	<input type="checkbox"/>

	Please reflect on your decision and be as honest as possible when answering the questions.	Strongly Disagree 1	Strongly Agree 6
8	...having no l...	<input type="radio"/>	<input type="radio"/>
9	...not knowing why ...	<input type="radio"/>	<input type="radio"/>
10	..not knowing which ...	<input type="radio"/>	<input type="radio"/>
11	...not knowing which choice ...	<input type="radio"/>	<input type="radio"/>

SCALE 5: DECISIONAL SELF-EFFICACY SCALE
(NAME OF QUESTIONNAIRE DID NOT APPEAR ON MATERIAL GIVEN TO SUBJECTS)

Please continue to answer these questions based on how you currently feel about the "big" decision you are currently facing. Carefully read each of the following statements and use the 6-point scale.

	<i>Please reflect on your decision and be as <u>honest</u> as possible when answering the questions.</i>	Strongly Disagree 1	Strongly Agree 6
1	I am confident that I can resolve this decision.	<input type="checkbox"/>	<input type="checkbox"/>
2	I am unable to deal with such a decision.	<input type="checkbox"/>	<input type="checkbox"/>
3	I feel insecure about having to make this decision.	<input type="checkbox"/>	<input type="checkbox"/>
4	I doubt that I will be able to make a good decision.	<input type="checkbox"/>	<input type="checkbox"/>
5	I have the resources necessary to handle this decision.	<input type="checkbox"/>	<input type="checkbox"/>
6	I am confident I will make the best choice possible with regards to this important decision.	<input type="checkbox"/>	<input type="checkbox"/>
7	I am confident that course of action I will select will be the correct one.	<input type="checkbox"/>	<input type="checkbox"/>
8	I am confident in my ability to handle this decision.	<input type="checkbox"/>	<input type="checkbox"/>
9	I feel pessimistic about finding a good solution.	<input type="checkbox"/>	<input type="checkbox"/>
10	I admit to myself that I CANNOT deal with this, and may quit trying.	<input type="checkbox"/>	<input type="checkbox"/>

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Journal Articles & Presentations

DeNisi , A., & Elaydi, R., 2001. Which came first, the irrational consumer or irrational organization. *Roger & Williams Law Review*, Vol. 6 (1), pp. 33-53.

Elaydi, R. The Metaphysic of Justice Theory: A Belief in Sophism. Paper Session "Research on Justice: Good Sides, Bad Sides, and Altogether New Sides." Presented to the 62st annual meeting of the Academy of Management, Denver, CO, August 2002.

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Texas A&M's Corps of Cadets Distinguished Teaching Award, 2001, University Wide Faculty Teaching Award. The Corps of Cadets is the largest and oldest student organization at A&M with 2,000 members.

Professional Service

OB Division paper reviewer (2001-2003)

College: Business Idea Competition Judge, 2002

Student: Helped coach and prepare the winning Texas A&M undergraduate team to the International Business Challenge case competition.